89-83

United States Department of Agriculture

National Agricultural Library

Beltsville Maryland 20705

Quick Bibliography Series

Sugar Substitutes and Alternative Sweeteners January 1983 - April 1989

251 Citations

July 1989

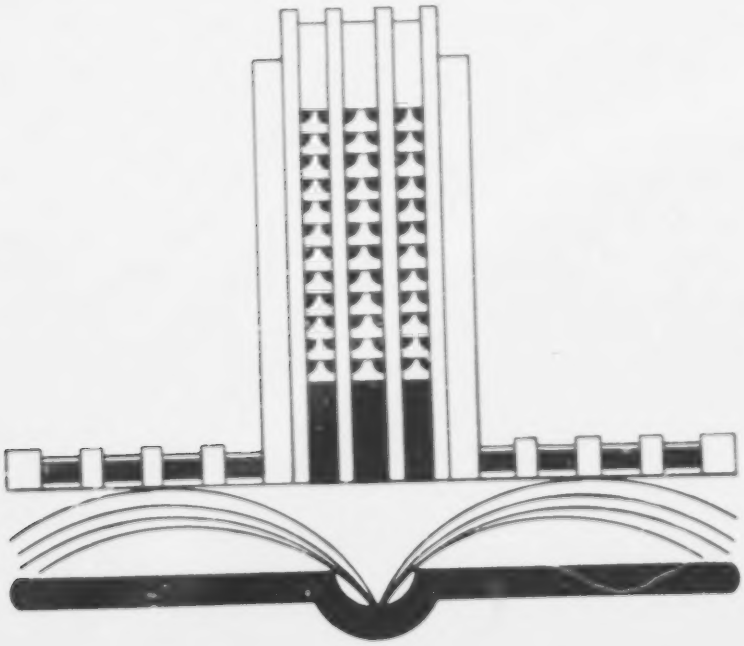
NAL-BIBL. QB 89-83
Updates QB 86-68

Prepared by:

JAYNE T. MACLEAN
National Agricultural Library
Information Centers Branch
(301) 344-3704

DATABASE SEARCHED: AGRICOLA

LANGUAGES: English only



A 17.18/4:

READEX FICHE best copy available

Bibliographies in the Quick Bibliography Series of the National Agricultural Library, are intended primarily for current awareness, and as the title of the series implies, are not indepth exhaustive bibliographies on any given subject. However, the citations are a substantial resource for recent investigations on a given topic. They also serve the purpose of bringing the literature of agriculture to the interested user who, in many cases, could not access it by any other means. The bibliographies are derived from computerized on-line searches of the AGRICOLA data base. Timeliness of topic and evidence of extensive interest are the selection criteria.

The author/searcher determines the purpose, length, and search strategy of the Quick Bibliography. Information regarding these is available upon request from the author/searcher.

Copies of this bibliography may be made or used for distribution without prior approval. The inclusion or omission of a particular publication or citation may not be construed as endorsement or disapproval.

To request a copy of a bibliography in this series, send the title, series number and self-addressed gummed label to:

U.S. Department of Agriculture
National Agricultural Library
Public Services Division, Room 111
Beltsville, Maryland 20705

United States Department of Agriculture

National Agricultural Library

Public Services Division

Beltsville, Maryland 20705

AVAILABILITY OF CITED DOCUMENTS

Non-USDA Patrons

The materials listed in this bibliography are available on interlibrary loan through your local library. The librarian in your Public, State, University or Corporate library can assist you in obtaining materials either in your area or directly from the National Agricultural Library. Current charges are:

Photocopies - $5.00 for the first 10 pages
$3.00 for each additional 10 pages

Microfiche - $5.00 for the first fiche
$ .50 for each additional fiche

Microfilm - $10.00 per NAL owned reel of microfilm.

Invoices are issued quarterly. Requests must comply with the National or International Interlibrary Loan Code. Questions about the availability of these materials may be directed to:

Lending Branch
National Agricultural Library
Beltsville, MD 20705
(301) 344-3755

USDA Patrons

The materials listed in this bibliography may be obtained by submitting one Form AD 245 for each item requested to your local Agency or Regional Document Delivery System Library or directly to the address above.

AGRICOLA

Citations in this bibliography were
entered in the AGRICOLA
database between January 1979
and the present.

SUGAR SUBSTITUTES AND ALTERNATIVE SWEETENERS

Search Strategy

Line	Command
1.	SS ARTIFICIAL()SWEETENER? OR NUTRASWEET OR ASPARTAME OR ASPARIC()ACID
2.	S S9 OR CYCLAMATE?
3.	S S10 OR SUGAR()SUBSTITUTE
4.	S S11 OR ACESULFAME()K
5.	S S12 OR THAUMATI?
6.	S S13 OR STEVIOSIDE OR STEVIA()REBAUDIANA OR YERBA()DULCE
7.	S S14 OR AMACHA OR PHYLLODULCIN
8.	S S15 OR LO()HAN OR MOMORDICA()GROSVENORI?
9.	S S16 OR THLADIANTHA
10.	S S17 OR MIRACLE()FRUIT
11.	S S18 OR SERENDIPITY()BERR?
12.	S S19 OR DIOSCOREOPHYLLUM()CUMMINSI?
13.	S S20 OR KATEMFE OR THAUMATOCOCCUS
14.	S S21 OR OSLADIN OR POLYPODIUM()VULGARE
15.	S S22 OR HIGH()FRUCTOSE()CORN()SYRUP? OR HFCS
16.	S S23 OR NATURAL()SWEETENER?
17.	L24/TI,DE,ENG
18.	S S25 AND PY=1983:9999

0001
Absence of blood pressure lowering effects of high oral doses of aspartame in spontaneously hypertensive rats.
walsh, G.M. ; Bittner, S.E.-Mooney, A.K.-Rozek, L.F. New York : Alan R Liss. UCLA symposia on molecular and cellular biology. In the series analytic: Amino acids in health and disease : new perspectives / edited by S. Kaufman. Proceedings of a Symposium, May 30-June 4, 1986, Keystone, Colorado. 1987. v. 55, p. 469-486. Includes references. (NAL Call No.: DNAL QH506.U34)

0002
Absorption and metabolism of sweetening agents
Caballero, Benjamin. Pleasantville, N.J. : Nutrition Publications, Clinical nutrition. March/April 1984. v. 3 (2). p. 65-70. ill., charts. Includes 100 references. (NAL Call No.: DNAL FNC RM216.M342 F&N)
Abstract: A major literature review summarizes and discusses 1) the classification of common sweetening agents into nutritive and non-nutritive agents; 2) the production, absorption and metabolism of nutritive sweeteners (corn syrups, as well as fructose, sorbitol, and xylitol); and (3) the history, hazardous concerns, and metabolism of the non-nutritive sweeteners: saccharin, cyclamate, and aspartame. The glycolytic pathways of the single nutritive sweeteners are discussed, as well as the rise in plasma phenylalamine produced by aspartame and the potential effect of aspartame on brain neurotransmitters. (WZ)

0003
Acceptability of aspartame- and saccharin-sweetened fruits to users and nonusers of artificial sweetners.
JADAA. Kunkel, M.E. ; Cody, M.M. Chicago, Ill. : The Association Journal of the American Dietetic Association. Sept 1985. v. 85 (9). p. 1143-1145. charts. Includes 7 references. (NAL Call No.: DNAL FNC 389.9 AM34)
Abstract: A study assessed differences in the acceptability of home-frozen fruits sweetened with artificial sweeteners using panelists who use or do not use artificial sweeteners. An evaluation was made using unsweetened fruit, sugar-sweetened fruit, and fruit sweetened with aspartame (A) or saccharin (S). Panelists did not differentiate in acceptability between sugar- and A-sweetened fruit. Panelists who did not use artificial sweeteners rated sugar- and A-sweetened fruit lower than panelists who did. No difference was found between sugar- and A-sweetened fruit in the increase of acceptability over a 6-month freezer storage period. The acceptability of unsweetened and S-sweetened fruits also decreased with storage time, but remained significantly below that of sugar- or A-sweetened fruit. (WZ)

0004
Acesulfame K, cyclamate and saccharin inhibit the anaerobic fermentation of glucose by intestinal bacteria.
ZERNA. Pfeffer, M. ; Ziesenitz, S.C.-Siebert, G. Darmstadt, W. Ger. : Dietrich Steinkopff. Zeitschrift fur Ernahrungswissenschaft = Journal of nutritional sciences. Dec 1985. v. 24 (4). p. 231-235. Includes references. (NAL Call No.: DNAL 389.8 Z35).

0005
Acute effects of aspartame on large neutral amino acids and monoamines in rat brain (Artificial sweeteners, phenylalanine).
Fernstrom, J.D.LIFSA. ; Fernstrom, M.H.-Gillis, M.A. New York : Pergamon Press. Life sciences. Apr 4, 1983. v. 32 (14). p. 1651-1658. Includes references. (NAL Call No.: 442.8 L62)

0006
Adherence of Streptococcus mutans to smooth surfaces in the presence of artificial sweetners (Saccharin, acesulfame K and sapartame).
Linke, H.A.B.MCBIA. Cambridge : Faculty Press. Microbios. 1983. v. 36 (143). p. 41-45. (1) 9 ref. (NAL Call No.: QR1.M54)

0007
Alkaloid production in cultured cells of Dioscoreophyllum cumminsii.
Furuya, T.PYTCA. Yoshikawa, T.-Kiyonara, H. Oxford : Pergamon Press. Phytochemistry. 1983. v. 22 (7). p. 1671-1673. ill. Includes references. (NAL Call No.: 450 P5622).

0008
Altering recipes for better health.
Zenobie, D.C. Auburn University, Ala. The Service Circular HE - Alabama Cooperative Extension Service, Auburn University. In subseries: Home Economics, Foods and Nutrition. Sept 1987. (560). 4 p. (NAL Call No.: DNAL 275.29 AL14)

0009
Alternative sweeteners /edited by Lyn O'Brien Nabors, Robert C. Gelardi.
. Nabors, Lyn O'Brien. 1943--Gelardi, Robert C., 1940-. New York : M. Dekker, Inc., c1986. xii, 355 p. : ill. ; 24 cm. Includes bibliographies and index. (NAL Call No.: DNAL TP422.A4A).
Abstract: Thirteen expert reviews address the characteristis, utility, and risks of various sugar (sucrose) substitutes, covering saccharin, aspartame, cyclamate, acesulfame-K, thaumatin (talin protein), citrus flavanone dihydrochalocones, commercial L-sugars, polyalcohols (e.g., sorbitol, mannitol), xylitol, palatinit, pure fructose, high-fructose syrups, and steviosie. Reviews on other less know sugar alternatives and on assessments of mixed sweetener functionality also are includes. Current activities in the development of yet new sweeteners are discussed.

0010
Alternative systems for sweetening layer cakes using aspartame with and without fructose.
Hess, D.A.CECHA. ; Setser, C.S. St. Paul : American Association of Cereal Chemists. Cereal chemistry. Sept/Oct 1983. v. 60 (5). p. 337-341. ill. Includes references. (NAL Call No.: 59.8 C33).

0011
Amino acids and obesity.
Ghadimi, H. New York : Insight Pub. Co. Pediatric annals. July 1984. v. 13 (7). p. 557-563. ill. Includes 25 references. (NAL Call No.: DNAL FNC RJ1 P35).
Abstract: Recent studies concerning 2 principal roles of amino acids in obesity, viz., their use in the nutritional management of obesity (particularly in the case of weight loss diets) and as an appetite suppressant (when taken before meals). The role of 4 specific amino acids (tryptophan, tyrosine, arginine, cysteine) in amino acid therapy, that of essential branched amino acids, and the benefits of the new dipeptide artificial sweetener, aspartame, also are discussed. (wz)

0012
An analysis of the effects of United States sugar policy on domestic sugar and high fructose corn syrup markets /by Harry L. Vroomen, James W. Dunn, and Kenneth F. Harling.
Vroomer, Harry L. University Park, Pa. : The Pennsylvania State University, College of Agriculture, Agricultural Experiment Station, 1986. Cover title.- "October 1986." 42 p. : ill. ; 28 cm. Bibliography: p. 41-42. (NAL Call No.: DNAL 100 P381 no.861).

0013
Analysis of the peptide sweetener aspartame by liquid chromatography (Stability in aqueous solutions).
Scherz, H.C.ZLUFAR. ; Monti, J.C.-Jost, R. Munchen, W. Ger. : J.F. Bergmann Zeitschrift fur Lebensmittel-Untersuchung und -Forschung. 1983. v. 177 (2). p. 124-128. Includes references. (NAL Call No.: 384 Z39).

0014
Appropriate use of nutritive and non-nutritive sweeteners: technical support paper.
JADAA. Chicago, Ill. : The Association. Journal of the American Dietetic Association. Dec 1987. v. 87 (12). p. 1690-1694. Includes 51 references. (NAL Call No.: DNAL FNC 389.8 AM34).
Abstract: The American Dietetic Association (ADA) reports on the appropriate use of nutritive sweeteners and non-nutritive sweeteners, namely, sucrose, fructose, sugar alcohols, aspartame, saccharin, and cyclamates. The ADA states that excessive intake of any sweetener requires nutrition counseling for basic nutrition reasons; an individual can minimize potential risk from any one sweetener by using a variety of available sweeteners, thus ingesting less of any specific sweetener. Research into possible risks of long-term uses of non-nutritive sweeteners, either alone or in combination, should continue.

0015
Artificial sweetener use and one-year weight change among women.
Stellman, S.D. ; Garfinkel, L. Orlando, Fla. : Academic Press. Preventive medicine. Mar 1986. v. 15 (2). p. 195-202. ill., charts. Includes 26 references. (NAL Call No.: DNAL RA421.P684).
Abstract: A cohort (78,694 women; ages 50-69) prospective mortality study of the relationship between artificial sweetener (AS) usage and weight gain found that AS correlated positively with body weight (independent of initial weight) and negatively with age. However, differences in weight gain or loss between AS users and non-users were insignificant (less than 2 lbs.). The study results do not support a strong association between AS usage and body weight changes.(wz)

0016
Artificial sweeteners--a long running saga.
Conning, D. London : Taylor & Francis, 1985. Food toxicology--real or imaginary problems? / edited by G.G. Gibson and R. Walker. Proceedings of an international symposium held at the University of Surrey, Guildford, on 11-15 July, 1983. p. 169-180. Includes references. (NAL Call No.: DNAL RA1258.F66).

0017
Artificial sweeteners: safety and utility in the treatment of diabetes mellitus.
Heller, A. ; Jovanovic, L. New York : A.R. Liss, c1985. Nutrition and diabetes / editors, Lois Jovanovic, Charles M. Peterson. p. 37-49. ill., charts. Includes 49 references. (NAL Call No.: DNAL RC660.N84).
Abstract: A technical review outlines various available sweetener substitutes, and discusses the safety of each and its relative blood glucose elevating ability in diabetes. Attention is given to both nutritive (fructose, xylitol, sorbitol) and nonnutritive (saccharin, aspartame) sugar substitutes. The advantages, disadvantages, and metabolism of the nutritive substitutes are discussed. General information also is included on the use of dietetic foods for diabetics.(wz)

0018
Artificial sweeteners: the alternatives.
Birmingham, Ala. : University of Alabama in Birmingham. Better health : UAB University of Alabama Medical Center. May 1986. v. 3 (5). p. 2-4. (NAL Call No.: DNAL RA421.B47).
Abstract: With the desire to limit caloric intake, avoid tooth decay, and provide diabetics with sweetness while controlling blood sugar, the research for noncaloric sweeteners continues. To date, only saccharin and aspartame--both

carrying warning labels--have been approved for use in the U.S. What these substances are, how they are used, what the restrictions are, and associated risks are discussed. Additionally, information is given on cyclamate, Acesulfame K, glycyrrhizin, steriioside and talin.(jd-b)

0019
As aspartame proliferates in products, controversy over safety won't die.
New York : Environmental Nutrition, Inc. Environmental nutrition. Jan 1987. v. 10 (1). p. 1, 4. (NAL Call No.: DNAL TX341.E5).
Abstract: A brief report highlights the continuing concerns that scientists have regarding aspartame consumption and human health risk. These concerns are based on evidence that suggests the implication of aspartame in brain toxicity risk, altered insulin release (which may have implications for diabetics), mood changes and irritability, potential eye damage (from methanol produced in vivo from aspartame), and hypersensitive allergic reactions. It is argued that further research is needs to confirm potential neural danger from repeated aspartame usage.(wz)

0020
Aspartame.
NFSCD. London, Eng. : Forbes Publications. Nutrition and food science. Jan/Feb 1984. v. (86). p. 21. (NAL Call No.: DNAL TX341.N825).
Abstract: Information on the British acceptance & use of aspartame as an artificial sweetener and its human safety is briefly reviewed and discussed. A review of available toxicological information has indicated that aspartame is safe for use in food and drink as a sugar substitute. While recent studies have questioned its safety, a review of these studies again concluded that aspartame was safe. It is cautioned, however, that phenylketonuria patients should avoid aspartame since it is hydrolyzed to phenylalanine as well as aspartic acid. (wz)

0021
Aspartame--a new food ingredient. Reply to the critical comments of Woodrow C. Monte.
JESED. Sturtevant, F.M. New York, N.Y. : Marcel Dekker. Journal of environmental science and health. Part A, Environmental science and engineering. Dec 1985. v. 20 (8). p. 863-901. Includes 39 references. (NAL Call No.: DNAL TD172.J6)

0022
Aspartame and headache.
NEJMAG. Lipton, R.B. ; Newman, L.C.-Solomon, S.-Steinmetzer, R.V.-Kunkel, R.S.-Elsas, L.J. II-Schiffman, S.S.-Buckley, C.E.-Sampson, H.A.-Massey, E.W. Boston, Mass. : Massachusetts Medical Society. New England journal of medicine. May 5, 1988. v. 318 (18). p. 1200-1202. charts. Includes 21 references. (NAL Call No. DNAL FNC 448.8 N442).
Abstract: Three letters to the editor discuss and critique a recent report that concluded that the incidence of headaches in aspartame users was not significantly different than that of people subjects taking a placebo. The first letter presents data from an independent study indicating that while this may be so, headaches were produced in placebo users, and, hence, aspartame may still trigger headaches in some people. The second letter cites perceived flaws in the reported study, arguing that it is premature to dismiss aspartame as a cause of vascular headaches. The third letter cites 3 flaws in the reported study, including its use of an acute rather than a chronic design. A fourth letter provided by the authors of the reported study responds to the comments raised in the 3 letters, and defends the conclusion that aspartame and placebo provide similar effects.(wz)

0023
Aspartame and polydextrose in a calorie-reduced frozen dairy dessert.
Goff, D.H. ; Jordan, W.K. Chicago, Ill. : Institute of Food Technologists. Journal of food science. Jan/Feb 1984. v. 49 (1). p. 306-307. ill. ; charts. Includes 9 references. (NAL Call No. 389.8 F7322).
Abstract: A study assessed whether polydextrose (PD) and aspartame (AS) could suitably replace the sweetness and functional properties of sucrose in a low-milkfat, low-solids, frozen dairy dessert. A taste panel evaluated 2 groups of desserts. The first group contained 2 levels each of PD/corn syrup solids combinations and microcrystalline cellulose in a dessert containing 4% milkfat and 30.5% total solids. The second group contained 4 levels of PD/sorbitol combinations and 2 levels of AS in a dessert containing 2% fat and 29.8% total solids. The taste panel rated the products in the first group as acceptable, and judged the microcrystalline cellulose as playing an important role in the formulations. The taste panel also concluded that the use of 0.05-0.1% AS and a maximum of 12% polydextrose resulted in an acceptable product in the formulations tested in the second group. (wz)

0024
Aspartame and seizures.
Gaull, G.E. Boston, Mass. : Little, Brown and Company. The Lancet. Dec 21/28, 1985. v. 2 (8469/70). p. 1431. Includes 8 references. (NAL Call No.: DNAL 448.8 L22)
Abstract: A technical commentary by a scientist of G. D. Searle, the producer of the artificial sweetener, aspartame, critiques a recently reiterated speculation that aspartame is associated with seizures in susceptible individuals. It is argued that this speculation was based on high-dose animal feeding studies. However, since aspartame is 200 times as sweet as sugar, 2 g represents about 1 lb. of

sugar in sweetness; a 60 kg person consuming a single dose of 2 g of aspartame would receive a phenylalanine load of about 19 mg/kg, an amount which is substantially less than that from daily dietary sources. It also is argued that other animal experiments and high-dose human studies have failed to produce frank seizures in normal adults and children.(wz)

0025
Aspartame and susceptibility to headache.
NEJMAG. Schiffman, S.S. ; Buckley, C.E. III~Sampson, H.A.~Massey, E.W.~Baraniuk, J.N.~Follett, J.V.~Warwick, Z.S. Boston, Mass. : Massachusetts Medical Society. New England journal of medicine. Nov 5, 1987. v. 317 (19). p. 1181-1185. charts. Includes 34 references. (NAL Call No.: DNAL FNC 448.8 N442).
Abstract: This report describes the outcome of a double-blind crossover clinical trial of 40 subjects (well educated and overweight, with a family or personal history of allergic reactions) who had reported repeated headaches following the ingestion of products containing aspartame. The administration of 30 mg of aspartame/kg of body weight in three encapsulated doses of 10 mg/kg each over a 4 hour period elicited an incidence of headaches comparable to that elicited by the placebo. Although the headaches detected did not occur more frequently after aspartame than after ingestion of the placebo, the plasma norepinephrine and epinephrine stabilized less just before the development of headaches. No treatment related effects were detected in vital signs, blood pressure, or plasma concentrations of glucose, insulin, glucagon, histamine, cortisol, epinephrine, and norepinephrine. It was concluded that the incidence of headaches after a short-term challenge with 30 mg of aspartame/kg was equivalent to that after ingestion of a placebo.

0026
Aspartame: Lack of effect on convulsant thresholds in mice.
Nevins, M.E. ; Arnolde, S.M.~Haigler, H.J. New York : Alan R. Liss. UCLA symposia on molecular and cellular biology. In the series analytic: Amino acids in health and disease : new perspectives / edited by S. Kaufman. Proceedings of a Symposium, May 30-June 4, 1986, Keystone, Colorado. 1987. v. 55. p. 437-449. Includes references. (NAL Call No.: DNAL QH506.U34).

0027
Aspartame may imperil dietary control of phenylketonuria.
Guttler, F. ; Lou, H. Boston, Mass. : Little, Brown and Company. The Lancet. Mar 2, 1985. v. 1 (8427). p. 525. Includes 9 references. (NAL Call No.: DNAL 448.8 L22).
Abstract: Case studies are described that indicate that the consumption of soft drinks containing the artificial sweetener, aspartame, by children having well-controlled phenylketonuria (PKU) who are consuming phenylalanine-restricted diets may be hazardous. This sweetener is a methyl ester of aspartyl-phenylalanine which is hydrolyzed by intestinal esterases and dipeptidases to methanol, aspartate, and phenylalanine. It is recommended that such soft drinks contain a labelling requirement for PKU patients that indicate their phenylalanine content. (wz)

0028
Aspartame: methanol and the public health.
Monte, W.C. La Habra, Calif. : International College of Applied Nutrition. The Journal of applied nutrition. Spring 1984. v. 36 (1). p. 42-54. Includes references. (NAL Call No.: 389.8 AM35).

0029
Aspartame: Review of safety issues.
JAMAA. Chicago : American Medical Association. JAMA : Journal of the American Medical Association. July 19, 1985. v. 254 (3). p. 400-402. Includes 20 references. (NAL Call No.: DNAL FNC 448.9 AM37).
Abstract: A report by the AMA's Council on Scientific Affairs under the Division of Drugs and Technology summarizes and discusses the safety of the artificial sweetener, aspartame. Safety issues are related to the potential for brain damage, mental retardation, endocrine dysfunction, brain tumors, and the potential toxicity of aspartame decomposition products (especially, dibetopiperazine). Possible toxic effects of aspartame's component amino acids (aspartic acid and phenylamine) are considered, as well as the possible synergistic effect of aspartame and dietary carbonydrate on brain neurotransmitters. The evidence reviewed suggests that aspartame is safe for human consumption and is not associated with serious health risks, but phenylketonuria patients should control their use of aspartame. (wz)

0030
Aspartame: review of the safety issues.
FOTEA. Stegink, L.D. Chicago, Ill. : Institute of Food Technologists. Food technology. Based on a paper presented during the IFT Toxicology and Safety Evaluation Div Prog, "Intense sweeteners: where's the controversy?" at the 46th anl mtg of the Inst of Food Technologists, June 15-18, 1986, Dallas, TX. Jan 1987. v. 41 (1). p. 119-121. Includes 3 references. (NAL Call No.: DNAL 389.8 F7398).
Abstract: A brief review summarizes data obtained from the administration of aspartame to normal adults and children, including individuals heterozygous for phenylketonuria. Specific attention is given to the effect of aspartame loading on blood methanol and formate levels, on plasma aspartate levels, and on plasma phenylalanine levels. Results of animal feeding experiments also are included. It is emphasized that the methanol

content of aspartame is considerably lower than that of fruit juice, and that a fasting 4-year-old child could ingest 3 successive 12-ounce servings of aspartame-sweetened beverage without encountering an appreciable increase in plasma phenylalanine.(wz)

0031
The aspartame story: a model for the clinical testing of a food additive.
AJCNA. Stegink, L.D. Bethesda, Md. : American Society for Clinical Nutrition. American journal of clinical nutrition. Papers presented at a symposium honoring L.J. Filer, Jr., Oct. 6, 1986, University of Iowa, Iowa City, IA. July 1987, v. 46 (1,suppl.) p. 204-215. ill., charts. Includes 74 references. (NAL Call No.: DNAL FNC 389.8 J824).
Extract: Toxicology is based on the premise that all compounds are toxic at some dose. Thus, it is not surprising that very large doses of aspartame (or its components--aspartate, phenylalanine, and methanol) produce deleterious effects in sensitive animal species. The critical question is whether aspartame ingestion is potentially harmful to humans at normal use and potential abuse levels. This paper reviews clinical studies testing the effects of various doses of aspartame upon blood levels of aspartate, phenylalanine, and methanol. These studies demonstrate that blood levels of these compounds are well below levels associated with adverse effects in sensitive animal species.(author)

0032
Aspartame-sweetened beverage: effect on plasma amino acid concentrations in normal adults and adults heterozygous for phenylketonuria.
JONUA. Stegink, L.D. ; Wolf-Novak, L.C.-Filer, L.J. Jr.-Bell, E.F.-Ziegler, E.E.-Krause, W.L.-Brummel, M.C. Bethesda, Md. : American Institute of Nutrition. The Journal of nutrition. Nov 1987. v. 117 (11). p. 1989-1995. ill. Includes 25 references. (NAL Call No.: DNAL 389.8 J82).
Abstract: A study assessed the effect of consuming beverages containing aspartame (APM), a dipeptide sweetener comprised of aspartic acid (AA) and phenylalanine (PA), on plasma levels of AA and PA in normal and phenylketonuric heterozygous adults. No significant increases in plasma AA and PA were noted, suggesting that the AA and PA portions of APM are rapidly metabolized when diet beverages containing APM are consumed at rates typically used by diet beverage drinkers.

0033
Aspartame: technical considerations and predicted use.
FDCHD. Vetsch, W. London, Eng. : Applied Science Publishers. Food chemistry. Paper presented at the symposium on "Recent Developments in Sweeteners," Oct. 26, 1984, London. 1985. v. 16 (3/4). p. 245-258. Includes references. (NAL Call No.: DNAL TX501.F6).

0034
Aspartame: the lo-cal advantage.
Barry, R. Washington, D.C. : The Service. Farmline - United States Dept. of Agriculture, Economic Research Service. Dec/Jan 1984. v. 5 (1). p. 11, 14-15. (NAL Call No.: DNAL AGE aHD1401.A2U52).

0035
Aspartame use by persons with diabetes.
DICAD2. Nehrling, J.K. : Kobe, P.-McLane, M.P.-Olson, R.E.-Kamath, S.-Horwitz, D.L. Alexandria, Va. : American Diabetes Association. Diabetes care. Sept/Oct 1985. v. 8 (5). p. 415-417. charts. Includes 7 references. (NAL Call No.: DNAL RC660.A1D53).
Abstract: An 18-week randomized, double-blind clinical study assessed the effect of aspartame on blood glucose control in 62 diabetics (29 taking aspartame, 33 taking a placebo). No changes in fasting blood glucose, 2-hour postprandial blood glucose, or glycohemoglobin levels were found in the aspartame or placebo groups, indicating that aspartame does not interfere with glycemic control in diabetics.(wz)

0036
Aspartic acid.
Chibata, I. ; Tosa, T.-Sato, T. Oxford [Oxfordshire] : Pergamon, 1985. Comprehensive biotechnology : the principles, applications, and regulations of biotechnology in industry, agriculture, and medicine / editor-in-chief, Murray Moo-Young. Literature review. v. 3. p. 633-640. ill. Includes references. (NAL Call No.: DNAL TP248.2.C66 1985).

0037
Assignment of the disulphide bonds in the sweet-tasting protein thaumatin I.
EJBCA2. Wel, H. van der. ; Iyengar, R.B.-Brouwershaven, J. van-Wassenaar, P.D. van-Bel, W.J.-Dijderaa, F.J.G. van der. Heidelberg, Ger. : Springer. European journal of biochemistry. Oct 1984. v. 144 (1). p. 41-45. ill. Includes 11 references. (NAL Call No.: DNAL QP501.E8).

0038
Bioavailability of glucose from Palatinit (Sugar substitute).
Ziesenitz, S.C. Darmstadt, W. Ger. : Dietrich Steinkopff. Zeitschrift fur Ernahrungswissenschaft = Journal of nutritional sciences. Sept 1983. v. 22 (3). p. 185-194. Includes references. (NAL Call No.: 389.8 Z35).

0039
Biotechnology and the development of enzymes for the HFCS industry.
Lloyd, N.E. Stamford, Conn. : Cahners Exposition Group, c1985. Bio Expo 85 / organized and presented by Cahners Exposition Group. Paper presented at "Bio Expo 85," May 14-16, 1985, Boston, Massachusetts. p. 115-134. ill. Includes references. (NAL Call No.: DNAL TP248.2.B5 1985).

0040
Blood methanol concentrations in one-year-old infants administered graded doses of aspartame.
Stegink, L.D.JONUA. ; Brummel, M.C.-Filer Jr., L.J.-Baker, G.L. Bethesda : American Institute of Nutrition. The Journal of nutrition. Aug 1983. v. 113 (8). p. 1600-1606. ill. Includes 43 references. (NAL Call No.: 389.8 J82).
Abstract: Blood methanol (MeOH) levels were measured in 24 infants (age, 1 year) administered the artificial sweetener, aspartame, to detemine if infants metabolize the MeOH content of this sweetener as well as adults. The doses included the 99th percentile of projected adult ingestion (34 mg/kg), a very high dose (50 mg/kg), and a potentially abusive dose (100 mg/kg). Blood MeOH was undetectable at the lowest dose, but was slightly elevated at the 2 highest doses. Mean peak blood levels and the blood concentration-time curve areas for MeOH correlated with dose level at the 2 highest doses. The blood MeOH values in infants were found to be similar to those found in normal adults. (wz)

0041
Caffeine enhancement of saccharin but not cyclamate flavor avoidance.
PBEHA. Mason, J.R. ; Bean, N.J. Elmsford, N.Y. : Pergamon Press. Physiology & behavior. 1987. v. 39 (6). p. 757-762. Includes references. (NAL Call No.: DNAL QP1.P4).

0042
Can aspartame meet our expectations.
Horwitz, David L.JADAA. ; Bauer-Nehrling, Jeanine K. Chicago : The Association. Journal of the American Dietetic Association. Aug 1983. v. 83 (2). p. 142-146. ill., charts. Includes 36 references. (NAL Call No.: 389.8 AM34).
Extract: Aspartame is a dipeptide containing aspartic acid and phenylalanine methyl ester. It is a nutritive sweetener with a caloric value equivalent to that of other proteins and with sweetness approximately 180 times that of sucrose. Thus, for equivalent sweetening power, it contributes only 0.5% of the kilocalories of sugar. Numerous studies have shown no potential toxicity of amounts of aspartame likely to be ingested, or even of abuse doses. Although aspartame cannot fully replace sugar, it appears to be a safe and acceptable sweetener for those who must, or desire to, reduce their intake of sucrose. (author)

0043
Caries prevention with xylitol: a review of the scientific evidence.
WRNDA. Bar, A. Basel : S. Karger. World review of nutrition and dietetics. Literature review. 1988. v. 55. p. 183-209. charts. Includes 148 references. (NAL Call No.: DNAL 389.1 W892).
Abstract: A technical review summarizes and discusses scientific reports that support the usefulness of xylitol in dental therapeutics and caries prevention, emphasizing its value for dental health. Topics include: the rationale for the use of non-fermentable sweeteners for caries prevention; the fermentability of xylitol and other sugar substitutes; the effects of xylitol on dental plque; and suggested mechanisms for the caries-inhibitory effect produced by xylitol. Data from animal and human studies are included.

0044
Changes in sugar demand.
Harvey, D. Washington, D.C. : The Service. Agricultural outlook AO - United States Deptartment of Agriculture, Economic Research Service. May 1988. (141). p. 16-17. (NAL Call No.: DNAL aHD1751.A42).

0045
Changes in the sweet proteins (thaumatins) in Thaumatococcus daniellii fruits during development.
PYTCA. Mackenzie, A. ; Pridham, J.B.-Saunders, N.A. Oxford, Eng. : Pergamon Press. Phytochemistry. 1985. v. 24 (11). p. 2503-2506. Includes 15 references. (NAL Call No.: DNAL 450 P5622).

0046
Characteristics of dicarboxylic amino acid transport by rabbit intestinal brush-border membrane vesicles.
NUREA. Washington, D.C. : Nutrition Foundation. Nutrition reviews. Jan 1985. v. 43 (1). p. 30-32. Includes 14 references. (NAL Call No.: DNAL FNC 389.8 N953).
Abstract: Recent studies of the transport of dicarboxylic amino acids into brush-border membrane vesicles of rabbit intestine and into the brush border of renal mucosa are reviewed. Comparisons between these studies and others involving dicarboxylic amino acid transport in other cells reveal some of the characteristics of dicarboxylic amino acid transport in vivo. Aspects of these findings are discussed. (wz)

0047
Characterization of impurities in commercial lots of sodium saccharin produced by the Sherwin-Williams process. I. Chemistry (Artificial sweeteners).
Riggin, R.M.FCTXA. ; Kinzer, G.W. Oxford : Pergamon Press. Food and chemical toxicology. Feb 1983. v. 21 (1). p. 1-10. ill. Includes references. (NAL Call No.: 391.8 F73).

0048
Characterization of impurities in commercial lots of sodium saccharin produced by the Sherwin-Williams process. II. Mutagenicity (Artificial sweeteners, toxicological properties).
Riggin, R.M.FCTXA. ; Margard, W.L.-Kinzer, G.W. Oxford : Pergamon Press. Food and chemical toxicology. Feb 1983. v. 21 (1). p. 11-17. Includes references. (NAL Call No.: 391.8 F73).

0049
Characterization of osmotin: a thaumatin-like protein associated with osmotic adaptation in plant cells.
PLPHA. Singh, N.K. ; Bracker, C.A.~Hasegawa, P.M.~Handa, A.K.~Buckel, S.~Hermodson, M.A.~Pfankoch, E.~Regnier, F.E.~Bressan, R.A. Rockville, Md. American Society of Plant Physiologists. Plant physiology. Oct 1987. v. 85 (2). p. 529-536. ill. Includes references. (NAL Call No.: DNAL 450 P692).

0050
Chemical constituents of flowers of Stevia rebaudiana Bertoni (a wild herb of Paraguay).
Darise, M.ABCHA. ; Kohda, H.~Mizutani, K.~Kasai, R.~Tanaka, O. Tokyo Agricultural Chemical Society of Japan. Agricultural and biological chemistry. Jan 1983. v. 47 (1). p. 133-135. ill. Includes references. (NAL Call No.: 385 AG8B).

0051
Chocolate cake and a diet soda, please.
New York, N.Y. : Tufts University Diet and Nutrition Letter. Tufts University diet & nutrition letter. July 1987. v. 5 (5). p. 2. (NAL Call No.: DNAL TX341.T83).
Abstract: Growing evidence indicates that artificial sweeteners do not help to maintain a trim figure. Potential reasons for this are discussed. Studies on the effect of artificial sweeteners on hunger also are addressed.(wz)

0052
Clonal propagation of Stevia rebaudiana Bertoni by stem-tip culture.
PCRPD8. Tamura, Y. ; Nakamura, S.~Fukui, H.~Tabata, M. Berlin, W. Ger. : Springer International. Plant cell reports. 1984. v. 3 (5). p. 183-185. ill. Includes 8 references. (NAL Call No.: DNAL QK725.P54).

0053
Cloning of the natural gene for the sweet-tasting plant protein thaumatin.
GENEDE. Lebedoer, A.M. ; Verrips, C.T.~Dekker, E.M.M. Amsterdam : Elsevier Science Publishers. Gene. Oct 1984. v. 30 (1/3). p. 23-32. ill. Includes references. (NAL Call No.: DNAL QH442.A1G4).

0054
The combination of sugars with intense sweeteners.
BJFBE6. Pelgroms, J. Brussels : Cooperative d'Edition pour les Industries Alimentaires. Belgian journal of food chemistry and biotechnology. 1987. v. 42 (1). p. 3-9. (NAL Call No.: DNAL TX541.B45).

0055
Comparison of aspartame- and fructose-sweetened layer cakes: importance of panels of users for evaluation of alternative sweeteners.
JADAA. Hess, D.A. ; Setser, C.S. Chicago, Ill. : The Association. Journal of the American Dietetic Association. July 1986. v. 86 (7). p. 919-923. charts. Includes 22 references. (NAL Call No.: DNAL FNC 389.8 AM34).
Extract: Panelists with and without known carbohydrate metabolic diseases evaluated layer cakes sweetened with aspartame, alone or combined with low levels of fructose, for texture and flavor. In general, healthy panelists evaluated the cakes as sweeter, crust bitterness as greater, and overall eating quality as higher than the panel members with carbohydrate metabolic disorders, but texture evaluations did not differ.(author)

0056
Comparison of Stevia plants grown from seeds, cuttings and stem-tip cultures for growth and sweet diterpene glucosides.
PCRPD8. Tamura, Y. ; Nakamura, S.~Fukui, H.~Tabata, M. Berlin, W. Ger. : Springer International. Plant cell reports. 1984. v. 3 (5). p. 180-182. Includes 3 references. (NAL Call No.: DNAL QK725.P54).

0057
Comparison of sugar levels in sweetened and unsweetened fruit juices and fruit juice drinks.
Wills, R.B.H. ; Ford, N.~Greenfield, H. Canberra, Australia : Australian Government Publishing Service. Journal of food & nutrition. 1985. v. 42 (1). p. 18-20. charts. Includes 4 references. (NAL Call No.: DNAL~FNC 389.9 AU73).
Abstract: The level of refined sugars in the diet is of great concern to many, particularly in view of the suggestion to increase consumption of complex carbohydrates. In order to determine the levels of individual sugars in both sweetened and unsweetened juices, 49 varieties were analyzed for fructose, glucose and sucrose. Sweetened varieties proved to contain 20-30 per cent more sucrose than unsweetened juice of the same fruit, while some unsweetened juices of a naturally high sugar content contained more sucrose than sweetened juices of other fruit types. All juices examined were below the allowable additive limits. These findings suggest that labels of unsweetened juices should be more specific for consumers to make informed choices.(jd-b)

0058
Complete purification and characterization of the taste-modifying protein, miraculin, from miracle fruit.
JBCHA3. Theerasilp, S. ; Kurihara, Y. Baltimore, Md. : American Society for Biochemistry and Molecular Biology. The Journal of biological chemistry. Aug 15, 1988. v. 263 (23). p. 11536-11539. Includes references. (NAL Call No.: DNAL 381 J824).

0059
Continued advantage seen for saccharin use in growing reduced calorie beverage foods.
Chicago, Ill. : Gorman Publishing Company. Processed Prepared Foods. Oct 1983. v. 152 (10). p. 107. (NAL Call No.: HD9000.1.F64).

Abstract: Formulation of consumer acceptable beverages which substitute saccharin for the nutritive sweetener, and an improved flavor balancing system, are responsible for the growth of the diet soft drink industry. Saccharin is the proven ingredient that ensures a uniform, stable beverage. Food safety or toxicity is still a debatable issue. The difference between the 2 viewpoints is in interpretation of data from animal studies extrapolated to the human, and a statistical evaluation of the actual population. A number of studies have shown no association between saccharin intake and bladder cancer. Low-calorie beverages now allow that portion of the population who must restrict intake of nutritive sweeteners access to soft drinks. Saccharin can be produced from either a sodium or calcium salt. (kbc)

0060
Corn sweeteners.
Stanhope, E.R. Washington : The Department : Outlook - Proceedings, Agricultural Outlook Conference, U.S. Department of Agriculture, Feb 1987. (63). p. 351-355. (NAL Call No.: DNAL 1.90 C20U8).

0061
Corn sweeteners.
Coker, L.E. ; Venkatasubramanian, K. New York : M. Dekker, c1987. Food biotechnology / edited by Dietrich Knorr. Literature review. p. 443-460. Includes references. (NAL Call No.: DNAL TP370.5.F66 1987).

0062
Counseling diabetics in the use of substitute sweeteners.
Lapworth, Dora J. ; Hallburg, Jeanne C. Pitman : American Association of Diabetes Educators. The Diabetes educator, Spring 1985. v. 11 (1). p. 55-59. charts. Includes 29 references. (NAL Call No.: DNAL FNC RC660.A1D52 F&N).
Abstract: An overview paper summarizes and discusses taste, availability, cost, metabolic activity, cancer risk, and current American Diabetes Association recommendations concerning 5 sugar substitutes: saccharine, fructose, sorbitol, xylitol, and aspartame. The uses, advantages, and disadvantages of each are discussed. All of these have some drawbacks as sucrose substitutes, and moderate, short term use is recommended. (wz)

0063
Crystal structure of a sweet protein, monellin, at 5.5-A (Angstrom units) resolution (from Dioscoreophyllum cumensii, a tropic berry also called the serendipity berry).
Tomlinson, G.BICHA. ; Ogata, C.-Shin, W.C.-Kim, S.H. Easton : American Chemical Society. Biochemistry, Dec 6, 1983. v. 22 (25). p. 5772-5774. ill. Includes references. (NAL Call No.: 381 B523).

0064
Current status of stevioside as a sweetening agent for human use.
Kinghorn, A.D. ; Soejarto, D.D. London : Academic Press, 1985. Economic and medicinal plant research / edited by H. Wagner, Hiroshi Hikino, Norman R. Farnsworth. Literature review. v. 1 p. 1-52. Includes references. (NAL Call No.: DNAL RS164.E28).

0065
Cytogenetic effects of cyclamates (Sweetening agents).
Jemison, E.W. ; Brown, K.-Rivers, B.-Knight, R. New York, N.Y. : Plenum Press. Advances in experimental medicine and biology, 1984. v. 172. p. 91-117. ill. Includes references. (NAL Call No.: QP901.A33).

0066
Decomposition of aspartame caused by heat in the acidified and dried state.
JAFCAU. Graves, D.J. ; Luo, S. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry, May/June 1987. v. 35 (3). p. 439-442. Includes references. (NAL Call No.: DNAL 381 J8223).

0067
Demand for low-cal foods invites new sweetener options.
McCormick, R.D. Chicago, Ill. : Gorman Publishing Company. Prepared foods, Aug 1986. v. 155 (9). p. 207, 209-210. (NAL Call No.: DNAL HD9000.1.F646).
Abstract: Because sweeteners are so popular in calorie-conscious societies, research continues to find better sugar substitutes. Saccharin, cyclamates, aspartame, acesulfame K and Talin are the various sweeteners in use or previously used that are discussed. Each is analyzed according to sweetness index, derivative, stability, best use, restrictions, and current use status (jd-b)

0068
Design of new artificial sweeteners based on aspartic acid amides.
JAFCAU. Rizzi, G.P. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry, Jan/Feb 1985. v. 33 (1). p. 19-24. Includes references. (NAL Call No.: DNAL 381 J8223).

0069
Determination of aspartame and its breakdown products in soft drinks by reverse-phase chromatography with UV detection.
JAFCAU. Tsang, W.S. ; Clarke, M.A.-Parrish, F.W. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry, July/Aug 1985. v. 33 (4). p. 734-738. Includes references. (NAL Call No.: DNAL 381 J8223).

0070
Determination of functional groups in glucose isomerase (Production of high fructose corn syrup).
Hoschke, A. ; Balogh, K.-Laszlo, E.-Hollo, J. Weinheim, W. Ger. : Verlag Chemie. Starch = Starke. Jan 1984. v. 36 (1). p. 26-30. ill. Includes references. (NAL Call No.: 309 ST22).

0071
Determination of the decomposition products of Usal in model systems and determination of dioxopiperazine in soft drinks by HPLC.
NAHRA. Prudel, M. ; Davidkova, E. Berlin, E. Ger. : Akademie-Verlag. Die Nahrung = Food. 1985. v. 29 (4). p. 381-389. ill. Includes 13. (NAL Call No.: DNAL 389.8 N142).

0072
Development of immobilized enzymes for production of high-fructose corn syrup.
Carasik, W.FOTEA. ; Carroll, J.D. Chicago : Institute of Food Technologists. Food technology. Oct 1983. v. 37 (10). p. 85-91. ill. Includes references. (NAL Call No.: 389.8 F7398).

0073
Developments in sweeteners-2 /edited by T.H Grenby, K. J. Parker and M.G. Lindley.
; Grenby, T. H.-Parker, K. J. (Kenneth John).-Lindley, M. G. London : Applied Science, c1983. xii, 254 p. : ill. ; 23 cm. --. Includes bibliographies and index. (NAL Call No.: DNAL FNC TP421.D48 F&N B-3959).
Abstract: A collection of 8 comprehensive reviews for food and nutrition scientists focuses on the description of different classes of sweeteners and their properties, and identifies the purposes for which they are particularly suitable. Topics include: a discussion of the properties and food applications of mannitol, sorbitol, and lycasin; physiological and metabolic effects of lactose hydrolysate syrups; associations between dental health and nutritive sucrose substitutes; the medical significance of sugars in the alimentary tract; recent developments in non-nutritive sweeteners; toxicological and safety evaluations of non-nutritive sweeteners; the use of non-nutritive sweeteners in foods; and the in vivo fate of non-nutritive sweeteners. (wz)

0074
Diet and hyperactivity.
NUREA. Rapoport, J.L. Washington, D.C. : Nutrition Foundation. Nutrition reviews. Diet and Behavior: A Multidisciplinary Evaluation. Proceedings of a Symposium, November 27-29, 1984, Arlington, VA. May 1986. v. 44 (suppl.). p. 158-162. Includes 17 references. (NAL Call No.: DNAL FNC 389.8 N953)
Abstract: A brief summary is presented of the methodology that has been developed in a series of studies on the behavioral effects of 3 common dietary substances (ethanol, caffeine, and sugar) on hyperactivity in children. The results of studies on each of these 3 substances are discussed separately. Studies on caffeine reactivity appeared to be the only area in which positive results have been obtained. It is argued, however, that children who crave sugar from early childhood may have an alteration in serotonin metabolism.(wz)

0075
Diet and nutrition in diabetes a state-of-the-art review /by Phyllis A. Crapo. --.
Crapo, Phyllis A. Bethesda, Md.? : National Diabetes Information Clearinghouse, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, National Institutes of Health, Public Health Service, U.S. Dept. of Health and Human Services, 1983. "July 1983." 26 p. ; 22 cm. Bibliography: p. 16-26. (NAL Call No.: DNAL RC662.C7).
Abstract: Advances in recent research on the nutritional needs of diabetics and implications for dietary treatment are discussed in this bulletin from the National Diabetes Information Clearinghouse of the National Institutes of Health. In general, diet, insulin therapy, and exercise are the main emphases of therapy in insulin-dependent diabetes (IDDM), while weight control is the primary goal of therapy in noninsulin-dependent diabetes (NIDDM). Weight reduction in NIDDM has been shown to alleviate hyperinsulinemia, insulin resistance, hyperlipidemia, and elevated blood glucose levels. Compositional changes in the diet may be useful in minimizing blood glucose fluctuations in IDDM. Nutritional components of the diabetic diet that are discussed include 1) macronutrient content, 2) fiber, 3) sweeteners (glucose, fructose, sorbitol and xylitol, aspartame, saccharin) and 4) alcohol. It is recommended that diets for diabetic patients be planned individually, considering their physiological and psychological status, ethnic and social background, food preferences, lifestyle, and educational level. Tables show the distribution of major nutrients in diets recommended for treatment of diabetes and the glycemic index for some common carbohydrate foods. An extensive list of references is provided. (aje)

0076
Diet fantasy.
McGrath, M. Emmaus, Pa. : Rodale Press, Inc. Organic gardening. June 1988. v. 35 (6). p. 52-53, 56-58. ill. (NAL Call No.: DNAL S605.5.O74).

0077
Dietary concepts in diabetes.
Zephirin, M. Kingston : Caribbean Food and Nutrition Institute. Cajanus. 1985. v. 18 (3). p. 152-168. Includes 19 references. (NAL Call No.: DNAL FNC RA784.A1C3).
Abstract: Diet therapy concepts and currently accepted objectives and strategies in the dietary management of diabetes are discussed. Nutritionally

based, practical guidelines are described concerning: diet therapy goals; nutritional characteristics of the diabetic diet with respect to calories, carbohydrate, fiber, fat, and protein; dietary strategies for various diabetic circumstances (insulin-dependent and non-insulin dependent diabetes; pregnancy and lactation; hypertension); the benefits of exercise; the adverse effects of alcohol; the use of various sugar substitutes; the argument against special "diabetic" foods; and the development of a prescribed diabetic diet. It is argued that diet therapy should be the basis of diabetes management.(wz)

0078
Dietary guidelines for Americans: avoid too much sugar.
State College, Miss. : The Service, Publication - Cooperative Extension Service, Mississippi State University, Ir subseries: Nutrition and Your Health, Ma, 1987. (1583). 8 p. ill. (NAL Call No.: DNAL 275.29 M68EXT).

0079
A dietary yoghurt prepared by partial enzymic hydrolysis of lactose and sweetening with aspartame.
SAJDA. Botha, L.J. ; Downes, T.E.H.~Lombard, S.H.~McGill, A.E.J. Lynnwoodrif : South African Society of Dairy Technology. South African journal of dairy science = Suid-Afrikaanse tydskrif vir suiwelkur : Sept 1987. v. 19 (3). p. 99-103. Includes references. (NAL Call No.: DNAL SF221.S6).

0080
Diterpenoid sweetners. Synthesis and sensory evaluation of biologically stable analogues of stevioside.
JAFCAU. DuBois, G.E. ; Bunes, L.A.~Dietrich, P.S.~Stephenson, R.A. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. Nov/Dec 1984. v. 32 (6). p. 1321-1325. Includes references. (NAL Call No.: DNAL 381 J8223).

0081
Do artificial sweeteners help you lose weight?.
Blume, E. Washington, D.C. : Center for Science in the Public Interest. Nutrition action health letter. May 1987. v. 14 (4). p. 1, 4-5. ill. Includes 6 references. (NAL Call No.: DNAL TX341.N98).
Abstract: Artificial sweeteners may help motivated dieters lose weight by increasing the variety of different foods from which they can choose. There is no evidence, however, that artificial sweeteners themselves promote weight loss in individuals who are not taking other steps to control their caloric intake. Some research studies have found that artificial sweeteners may even promote weight gain by triggering hunger and/or a craving for carbohydrates. Other studies have concluded that sugar substitutes may help dieters take in fewer calories by making available foods more palatable and therefore more satisfying. Most experts agree that artificial sweeteners help make weight loss more pleasant by satisfying the desire for sweets and allowing more nutritious foods to provide most of the calories consumed. However, the rising per capita consumption of artificially sweetened soft drinks, coupled with the growing problem of obesity in the U.S., indicates that sugar substitutes alone cannot effectively accomplish weight loss.

0082
Double-blind challenge studies of behavioral and cognitive effects of sucrose-aspartame ingestion in normal children.
NUREA. Ferguson, H.B. ; Stoddart, C.~Simeon, J.G. Washington, D.C. : Nutrition Foundation. Nutrition reviews. Diet and Behavior: A Multidisciplinary Evaluation, Proceedings of a Symposium, November 27-29, 1984, Arlington, VA. May 1986. v. 44 (suppl.). p. 144-150. charts. Includes 17 references. (NAL Call No.: DNAL FNC 389.8 N953).
Abstract: The methodology and results of 2 double-blind challenge studies involving normal children on the behavioral and cognitive effects of sucrose and the artificial sweetener, aspartame, are presented and discussed. The first study was designed to examine the behavioral and cognitive effects of a range of doses of sucrose and aspartame; the second study sought to test younger children (mean age, 4.2 years) than past studies have included. Both studies failed to provide evidence for any pervasive or marked change in children's behavior after consuming sucrose.(wz)

0083
The effect of artificial sweetener on insulin secretion. 1. The effect of acesulfame K on insulin secretion in the rat (studies in vivo).
HMMRA. Liang, Y. ; Steinbach, G.~Maier, V.~Pfeiffer, E.F. Stuttgart, W. Ger. : Georg Thieme. Hormone and metabolic research. June 1987. v. 19 (6). p. 233-238. Includes references. (NAL Call No.: DNAL QP801.H7H65).

0084
The effect of artificial sweetener on insulin secretion. II. Stimulation of insulin release from isolated rat islets by Acesulfame K (in vitro experiments).
HMMRA. Liang, Y. ; Maier, V.~Steinbach, G.~Lalic, L.~Pfeiffer, E.F. Stuttgart, W. Ger. : Georg Thieme. Hormone and metabolic research. July 1987. v. 19 (7). p. 285-289. Includes references. (NAL Call No.: DNAL QP801.H7H65).

0085
Effect of aspartame loading on plasma and erythrocyte free amino acied concentrations in one-year-old infants.
Filer Jr., L.J.JONUA. ; Baker, G.L.~Stegink, Lewis D. Bethesda : American Institute of Nutrition. The Journal of nutrition. Aug 1983. v. 113 (8). p. 1591-1599. charts. Includes 43

references. (NAL Call No.: 389.8 J82)
Abstract: The capacity of 24 infants (age, 1-year) to metabolize the artificial sweetener, aspartame, to its component amino acids (aspartate and phenylalanine) was compared to the same capacity in adults. The doses include the 99th percentile of projected adult ingestion (34 mg/kg), and very high dose (50 mg/kg), and a potentially abusive dose (100 mg/kg). Plasma aspartate increased significantly only at the highest dose, the change over baseline being similar in infants and adults. Dosing levels, however, correlated with respective increases in the peak plasma level for phenylalanine and its plasma concentration-time curve area. The results suggest that infants and adults metabolize aspartame to a similar degree. (wz)

0086
Effect of dietary fructose on broiler chick performance.
POSCAL. Miles, R.D. ; Campbell, D.R.-Yates, J.A.-White, C.E. Champaign, Ill. : Poultry Science Association. Poultry science. July 1987. v. 66 (7). p. 1197-1201. Includes references. (NAL Call No.: DNAL 47.8 AM33P).

0087
Effect of hepatic ornithine decarboxylase of some food additives and synthetic elastomers.
Zanoe, L. van de. ; Kunnen, R.-Uijtewaal, B.-Wijk, R. van-Bisschop, A. London : Taylor & Francis. Food additives and contaminants. Jan/Mar 1986. v. 3 (1). p. 57-62. Includes references. (NAL Call No.: DNAL TX553.A3F65).

0088
Effect of oral contraceptive use on the erythrocytic glutathione reductase and asparate aminotransferase activities in women with or without clinical signs of vitamin deficiency.
NURIB. Tovar, A. ; Bourges, H.-Canto, T.-Torres, N.-Lopez-Castro, B.R. Los Altos, Calif. : Geron-X, Inc. Nutrition reports international. July 1985. v. 32 (1). p. 199-209. Includes 31 references. (NAL Call No.: DNAL RC620.A1N8).

0089
Effect of slope position on the growth of stevia in Indonesia.
CSOSA2. Goenadi, D.H. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. Nov 1987. v. 18 (11). p. 1317-1328. ill., maps. Includes references. (NAL Call No.: DNAL 5590.C63).

0090
Effect of sucrose, fructose and aspartame on fortificant iron solubility in a wheat flake cereal.
JFPRDR. Nadeau, D.B. ; Clydesdale, F.M. Ames, Iowa : International Association of Milk, Food, and Environmental Sanitarians. Journal of food protection. Jan 1987. v. 50 (1). p. 21-24. Includes references. (NAL Call No.: DNAL 44.8 J824).

0091
Effect of sweeteners and stabilizers on selected sensory attributes and shelf life of ice cream.
JFDAZ. Wittinger, S.A. ; Smith, D.E. Chicago, Ill. : Institute of Food Technologists. Journal of food science. Nov/Dec 1986. v. 51 (6). p. 1463-1466, 1470. ill., charts. Includes 35 references. (NAL Call No.: DNAL 389.8 F7322).
Abstract: A study evaluated interactions of commonly used sweeteners (sucrose, corn syrup, high-fructose corn syrup (HFCS)) and stabilizers (guar and locust bean gums) on sensory values (sweetness, iciness, chewiness, vanilla intensity) and shelf-life of a minimum fat ice cream mixture. Shelf-life quality was superior when low or no HFCS was added, and when a low rather than high guar/locust bean ratio was used. Substituting half of the sucrose with HFCS did not influence the sweetness or vanilla intensity of the mixture. Using a mixture high in corn syrup and having a high guar/locust bean ratio increased the chewiness rating of the mixture (wz)

0092
Effect of sweeteners on major volatile compounds and flavor of yogurt.
JDSCAE. McGregor, J.U. ; White, C.H. Champaign, Ill. : American Dairy Science Association. Journal of dairy science. Sept 1987. v. 70 (9). p. 1828-1834. Includes references. (NAL Call No.: DNAL 44.8 J822).

0093
Effects of aspartame and glucose administration on brain and plasma levels of large neutral amino acids and brain 5-hydroxyindoles (Tryptophan, tyrosine, phenylalnine, sweeteners).
Yokogoshi, H. ; Roberts, C.H.-Caballer, E.-Wurtman, R.J. Bethesda, Md. : American Society for Clinical Nutrition. American journal of clinical nutrition. July 1984. v. 40 (1). p. 1-7. ill. Includes references. (NAL Call No.: 389.8 J824).

0094
Effects of aspartame ingestion on the carbohydrate-induced rise in tryptophan hydroxylation rate in rat brain.
AJCNA. Fernstrom, J.D. ; Fernstrom, M.H.-Grubb, P.E. Bethesda, Md. : American Society for Clinical Nutrition. American journal of clinical nutrition. Aug 1986. v. 44 (2). p. 195-205. Includes references. (NAL Call No.: DNAL 389.8 J824).

0095
Effects of stevioside and its relative compounds on growth of rice and lettuce seedlings.
Komai, K. ; Iwamura, J. Tokyo, Japan : Pesticide Science Society of Japan. Nippon Noyaku Gakkaishi = Journal of pesticide science. Nov 1983. v. 8 (4). p. 445-450. Includes references. (NAL Call No.: SB950.3.J3N5).

0096
The effects of sucrose, fructose, and high-fructose corn syrup meals on plasma glucose and insulin in non-insulin-dependent diabetic subjects.
DICAD2. Akgun, S. ; Ertel, N.H. New York : American Diabetes Association.
Diabetes care. May/June 1985. v. 8 (3). p. 279-283. ill., charts. Includes 19 references. (NAL Call No.: DNAL RC660.A1D53).
Abstract: A clinical study compared the blood glucose (BG) response to sucrose, fructose, and high-fructose corn syrup (HFCS) in 17 patients with non-insulin-dependent diabetes (NIDD). The results revealed that sucrose and HFCS caused greater and similar increments of BG than fructose; hence, it appears that HFCS would not be useful for diabetic diets. Furthermore, sucrose, HFCS, and fructose all produced a similar increase in BG in patients having a higher basal BG (over 140 mg/dL); hence, it appears that fructose only is appropriate in diets of patients having mild diabetes.(wz)

0097
Effects of xylitol on gastric emptying and food intake.
AJCNA. Shafer, R.B. ; Levine, A.S.-Marlette, J.M.-Morley, J.E. Bethesda, Md. : American Society for Clinical Nutrition. American journal of clinical nutrition. Apr 1987. v. 45 (4). p. 744-747. ill., charts. Includes 12 references. (NAL Call No.: DNAL FNC 389.8 J824).
Extract: We studied the effects of xylitol, the pentose-sugar alcohol, on gastric emptying of the solid-food component of a complex meal. Gastric emptying was measured in human volunteers by utilizing a standardized radiolabeled scrambled-egg meal. After ingestion of 25 g xylitol, gastric emptying was markedly prolonged (T-1/2 58 +/- 5 min control vs 91 +/- 7 min after xylitol; p less than 0.01). Since delayed gastric emptying may affect food intake, we evaluated the effects of xylitol on calorie intake. Food intake after oral preloading with water resulted in intake of 920 +/- 60 kcal vs 690 +/- 45 kcal after 25 g of xylitol. In contrast, a preload of glucose, fructose, or sucrose failed to suppress food intake. Although xylitol decreased food intake and also delayed gastric emptying, these effects may be unrelated. Our data suggest a role for xylitol as a potentially important agent in dietary control.(author)

0098
Effects of 2-oxoglutarate and glutamate on glutamine metabolism by rat kidney mitochondria.
Schoolwerth, A.C. ; LaNoue, K.F. Berlin W. Ger. . : Springer-Verlag, c1984.
Glutamine metabolism in mammalian tissues / edited by D. Haussinger and H. Sies. p. 178-186. ill. Includes 19 references. (NAL Call No.: DNAL QP562.G55G58).

0099
Enzymatic processes for high-fructose corn syrup.
Barker, S.A. ; Petch, G.S. Menlo Park, Calif. : The Benjamin/Cummings Publishing Company. Biotechnology series. 1985. (5). p. 93-107. Includes references. (NAL Call No.: DNAL Q320.B56).

0100
Enzymatic production of high fructose corn syrup (HFCS) containing 55% fructose in aqueous ethanol.
BIBIAU. Visuri, K. ; Klibanov, A.M. New York, N.Y. : John Wiley & Sons.
Biotechnology and bioengineering. Nov 1987. v. 30 (7). p. 917-920. Includes references. (NAL Call No.: DNAL 381 J8224).

0101
Enzyme cloning for the food fermentation industry.
FOTEA. White, Thomas J. ; Meade, James H.-Shoemaker, Sharon P.-Kothe, Kirston E.-Innis, Michael A. Chicago, Ill. : Institute of Food Technologists. Food technology. Feb. 1984. v. 38 (2). p. 90, 92-95, 98. ill. Includes 14 references. (NAL Call No.: DNAL 389.8 F7398).
Abstract: The cloning and characterization of the genes of 3 enzymes isolated from 3 distinct filamentous fungi are summarized: glucoamylase, exo-cellobiohydrolase I, and pyranose-2-oxidase. Such enzymes produced in large-scale, can be used in processes that convert glucose to the sweetener, fructose. While the 3 enzymes were produced from different organisms, a single experimental approach was used to obtain clones for each enzyme. (wz)Genetic Engineering In Food Production

0102
Evaluation of cyclamate for carcinogenicity /Committee on the Evaluation of Cyclamate for Carcinogenicity, Commission on Life Sciences, National Research Council. --.
Washington, D.C. : National Academy Press, 1985. xii, 196 p. : ill. ; 28 cm. Includes bibliographies. (NAL Call No.: DNAL RC268.7.C93E93).
Abstract: A special National Research Council (NRC) committee report concludes that the weight of experimental and epidemiological evidence does not indicate that cyclamate is a carcinogen. Animal studies suggest, however, that cyclamate has a cancer-promoting, co-carcinogenic activity, and human epidemiological studies indicate that the use of cyclamate-saccharin mixtures may slightly enhance bladder cancer risk. The report summarizes the detailed findings, overall conclusions, and specific recommendations of the NRC committee, based on an expert evaluation of the relevant scientific literature. Following a review of the historical development of the use of artificial sweeteners in the US, the report addresses: the chemicophysical properties and metabolism of cyclamate and its major metabolite,

cyclohexylamine; the collection and evaluation of short-term tests (e.g.: bacteria, Drosophila, dominant aethal test, cell transformation); animal bioassay carcinogenesis studies; and epidemiological studies. The report recommends that: epidemiological monotoring be continued in countries using cyclamate; further animal carcinogenesis bioassay testing on cyclamate be omitted, but that the 1-2 rodent studies that suggested a promotional or co-carcinogenic effect for cyclamate be repeated; mammalian cell DNA damage and give mutation tests and more definitive cytogenetic studies should be carried out; and that further metabolic studies on cyclamate should not be carried out, since existing data do not indicate the human in formation of potentially hazardous cyclamate metabolites.

0103
Evaluation of reactions to food additives: the aspartame experience.
AJCNA. Bradstock, M.K. : Serdula, M.K.~Marks, J.S.~Barnard, R.J.~Crane, N.T.~Remington, P.L.~Trowbridge, F.L. Bethesda, Md. : American Society for Clinical Nutrition. American journal of clinical nutrition. Mar 1986. v. 43 (3). p. 464-469. charts. Includes 5 references. (NAL Call No.: DNAL FNC 389.8 J824).
Extract: Despite the widespread use of chemical food additives, few criteria exist to evaluate consumer reports of adverse reactions. We analyzed 231 consumer complaints associated with the food additive aspartame. We developed a methodologic approach to evaluate all complaints by adapting general criteria used to investigate adverse reactions to medications. Complaints were ranked according to the effects of cessation and rechallenge. Using this method, we found no clear symptom complex that suggests a widespread public health hazard associated with aspartame use; however, we identified some case reports in which the symptoms may be attributable to aspartame in commonly-consumed amounts. The systematic application of pre-defined review criteria, such as those described here, to monitor consumer complaints related to food additives will help identify products that warrant more focused clinical studies.(author)

0104
Examination of sugars, sugar alcohols, and artificial sweeteners as substitutes for sucrose in strawberry jam: keeping quality tests.
Hyvonen, L.JFDSA. ; Torma, R. Chicago : Institute of Food Technologists. Journal of food science. Jan/Feb 1983. v. 48 (1). p. 186-192. Includes references. (NAL Call No.: 389.8 F7322).

0105
Examination of sugars, sugar alcohols, and artificial sweeteners as substitutes for sucrose in strawberry jam. product development.
Hyvonen, L.JFDSA. ; Torma, R. Chicago : Institute of Food Technologists. Journal of food science. Jan/Feb 1983. v. 48 (1). p. 183-185, 192. Includes references. (NAL Call No.: 389.8 F7322).

0106
Excretion and metabolism of ((2,4-dichlorophenoxy))aspartic acid and (2,4-dichlorophenoxy)acetyl)valine in the rat.
Buly, R.L. ; Mumma, R.O. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. May/June 1984. v. 32 (3). p. 571-577. ill. Includes references. (NAL Call No.: 381 J8223).

0107
Expression of synthetic thaumatin genes in yeast.
BICHA. Lee, C.H. ; Weickmann, J.L.~Koduri, R.K.~Ghosh-Dastidar, P.~Saito, K.~Blair, L.C.~Date, T.~Lai, C.S.~Hollenberg, S.M.~Kendall, R.L. Washington, D.C. : American Chemical Society. Biochemistry. July 12, 1988. v. 27 (14). p. 5101-5107. ill. Includes references. (NAL Call No.: DNAL 381 B523).

0108
The Fate of non-nutritive sweeteners in the body.
Renwick, A.G. London : Applied Science Pub., c1983. Developments in sweeteners-2 / edited by T.H. Grenby, K.J. Parker, M.G. Lindley. p. 179-224 ill., charts. Includes 110 references. (NAL Call No.: DNAL FNC TP421 D48 F8N B-3959).
Abstract: The biochemical fate of 2 non-nutritive sweeteners (cyclamate and saccharin) and a new low-calorie sweetener (aspartame) are considered, with particular emphasis on their metabolism and excretion relative to their human safety. Cyclamate is metabolized to cyclohexylamine, which is of greater toxic concern than cyclamate. Saccharin, a strong "acid," increases bladder tumor incidence at very high dietary dose levels. Aspartame is metabolized to aspartic acid, phenylalanine, and methanol, and has a potential toxicity, related to the resultant blood levels of its metabolites. (wz)

0109
FDA approves aspartame as soft-drink sweetener.
Chicago : American Medical Association. JAMA : Journal of the American Medical Association. Aug 19, 1983. v. 250 (7). p. 872-873. (NAL Call No.: 448.9 AM37).
Abstract: Commentary is given on the US Food and Drug Administration (FDA) approval of aspartame (1-methyl-N-L-alpha-aspartyl-L-phenylalanine) as an artificial sweetener for US soft drinks. This sweetener has the same food value (4 cal/g) as regular sugar, but is 180-200 times sweeter, requiring the use of much smaller amounts. FDA had approved the use of aspartame as a sugar substitute and as an additive to various foods in 1981. In approving its use in soft drinks, FDA reviewed data from over

100 studies, including clinical studies, which indicated that brain neurotransmitters may be affected while taking aspartame in a carbonated beverage while eating carbohydrate-rich foods (e.g., cookies). The US manufacturer of aspartame cautions people with phenylketonuria to be aware of the phenylalanine content of this sweetener. FDA's review concluded that the sweetener is safe, noting its use in soft drinks in Canada for 2 years without reported ill effects. (wz)

0110
FDA approves four new aspartame uses.
FDTEA. Homler, B. ; Kedo, A.~Shazer, W.R. Chicago, Ill. : Institute of Food Technologists. Food technology. July 1987. v. 41 (7). p. 41-44. ill., charts. (NAL Call No.: DNAL 389.8 F7398).
Abstract: A report from a commercial producer of aspartame highlights 9 aspartame use petitions currently pending FDA approval, and separately discusses and provides formulations and data on 3 of 4 newly-approved aspartame uses, viz.: refrigerated and frozen drinks; frozen stick-type novelties (e.g., chocolate fudge bars); and breath mints. Data on the results of sensory acceptability tests of an aspartame-sweetened frozen dessert are included. A new method for determining aspartame levels in a variety of fresh products also is described, based on derivatization with orthophthalaldehyde and spectrophotometric measurement at 330 nm.(wz)

0111
The flavonoids of Stevia rebaudiana.
Rajbhandari, A.LLOYA. ; Roberts, M.F. Cincinnati : American Society of Pharmacognosy. Journal of natural products. Mar/Apr 1983. v. 46 (2). p. 194-195. Includes references. (NAL Call No.: 442.8 L77).

0112
Food colors, flavors, and safety: A consumer viewpoint.
FDTEA. McNutt, K.W. ; Powers, M.E.~Sloan, A.E. Chicago, Ill. : Institute of Food Technologists. Food technology. Jan 1986. v. 40 (12). p. 72, 74-78. charts. (NAL Call No.: DNAL 389.8 F7398).
Abstract: A 1985 US survey of 200 female readers of Good Housekeeping assessed consumer attitudes toward artificial flavors and colors in foods and how these attitudes affect food-purchasing decisions. Factors affecting purchasing included considerations of safety, taste, freshness, purity, and price. Most respondents ranked the absence of artificial flavorings, preservatives, ingredients, and coloring, and the presence of natural flavor, essential vitamins, and high protein and fiber, highest. Consumers' fear of artificial food additives focused on their possible causation of cancer and a basic fear of chemicals. They ranked NutraSweet over other artificial sweeteners in terms of benefit, and natural color or no color added as being the most acceptable. The respondents placed greatest belief on information provided by the American Medical Association, their personal physicians, a nutrition expert, and the US Surgeon General.(wz)

0113
Fructose and health.
Sestoft, Leif. New York : John Wiley, c1983. Nutrition update / edited by Jean Weininger (and) George M. Briggs. p. 39-54. ill. Includes 60 references. (NAL Call No.: RC620.N83 F&N B-3712).
Abstract: Fructose consumption is increasing because of new technologies in the food industry. The impact of this increase on public health is uncertain. Gastrointestinal absorption of fructose, its metabolism by the liver, and the varied effects produced by dietary fructose are all currently under study. Long-term use in human meals, selected effects on neonates and subjects with fructose intolerance, and its long-term effect at high doses in test animals have all been studied. Animal studies indicate that fructose affects diabetes development and complications, and reduces growth rate. It cannot be recommended for diabetics, but may be used as a sweetener for reactive hypoglycemic patients. It is not known to what extent fructose is involved in the etiology of human disease, with the exception of inherited fructose intolerance. (wz)

0114
Gains and losses of sugar program policy options.
Leu, G.J.M. ; Schmitz, A.~Knutson, R.D. Berkeley : The Station. Working paper series - California Agricultural Experiment Station, Department of Agricultural and Resource Economics. Sept 1985. (381). 23 p. Includes references. (NAL Call No.: DNAL S1.W6).

0115
Gaseous response to ingestion of a poorly absorbed fructo-oligosaccharide sweetener.
AJCNA. Stone-Dorshow, T. ; Levitt, M.D. Bethesda, Md. : American Society for Clinical Nutrition. American journal of clinical nutrition. July 1987. v. 46 (1). p. 61-65. ill., charts. Includes 15 references. (NAL Call No.: DNAL FNC 389.8 J824).
Extract: Fructo-oligosaccharides are naturally occurring sweet substances that are poorly absorbed and have the potential to be clinically useful nonnutritive sweeteners. Because most nonabsorbed carbohydrates are fermented yielding gas, we assessed flatulent symptoms and H2 excretion during ingestion of fructo-oligosaccharide (5 g tid) for 12 d. Ten subjects had significantly greater flatulence while taking the oligosaccharide than did five subjects taking sucrose (5 g tid). Breath H2 after 10 g fructo-oligosaccharide was similar to that of 10 g lactulose, suggesting near total malabsorption of the fructo-oligosaccharide. Although previous studies found a marked

diminution in breath H2 after prolonged exposure to lactulose, breath H2 response increased by 50% after a 12-d period on the oligosaccharide and gaseous symptoms did not improve. We conclude that adaptation of colonic bacteria to carbohydrate malabsorption is variable and may depend upon quantity or nature of the carbohydrate.(author)

0116
Haematological abnormalities induced by feeding a common artificial sweetener, saccharin, in ICR Swiss mice.
TOLEDO, Prasad, D. ; Rai, G. Amsterdam : Elsevier Science Publishers. Toxicology letters. Mar 1987. v. 36 (1). p. 81-88. ill. Includes references. (NAL Call No.: DNAL RA1190.T62)

0117
Has aspartame an aftertaste?.
JFDAZ. Samundsen, J.A. Chicago, Ill. : Institute of Food Technologists. Journal of food science. Sept/Oct 1985. v. 50 (5). p. 1510. 1512. charts. Includes 7 references. (NAL Call No.: DNAL 389.8 F7322).
Abstract: A consumer evaluation panel (18 young women, 12 young men) assessed the question of aspartame aftertaste relative to sucrose using 4 degree C aqueous solutions (4% sucrose; 0.02% aspartame). No significant difference was found in sweetness between the 2 solutions, while both solutions were found to have an aftertaste. The women ranked the aspartame solution "just right" in sweetness, while the men found it slightly too sweet. The sucrose aftertaste was rated as sweet and drying, with only a slight bitterness. The aspartame aftertaste was described as having a lingering sweetness, a bitter-sweetness, and a slightly powdery sensation.(wz)

0118
HFCS (high fructose corn syrup): a sweetener revolution (Food ingredients, marketing aspects, United States).
Barry, R.D. Washington : The Service. National food review NFR - United States Dept. of Agriculture, Economic Research Service. 1983. Includes statistical data. 1983. (23). p. 10-13. ill. Includes references. (NAL Call No.: aHD9001.N275).

0119
HFCS (high fructose corn syrup) competition--a year of transition (Replacements for refined sugar, market environment, corn prices, U.S.).
Greditor, A. Washington : U.S. Government Printing Office. Proceedings - Agricultural Outlook Conference, U.S. Department of Agriculture. Dec 1983. Presented at the Outlook '84 Conference, Washington, D.C., October 31-November 3, 1983. Dec 1983. (60th). p. 254-261. (NAL Call No.: 1.90 C20U8).

0120
HFCS: the cheaper sweetener.
Barry, R. Washington, D.C. : The Service. Farmline - United States Dept. of Agriculture, Economic Research Service. Dec/Jan 1984. v. 5 (1). p. 10, 12-13. (NAL Call No.: DNAL AGE aHD1401.A2U52).

0121
HFCS vs. sucrose: any fermentation difference?.
BADIA. Otto, K.F. Chicago, Ill. : Siebel. Bakers digest. May 1985. v. 59 (1). p. 10-11. (NAL Call No.: DNAL 389.8 S11).

0122
High fructose: a growing world role?.
Hodgkin, J.A. Washington, D.C. : Corn Refiners Association, Inc. Corn annual. 1987. p. 19-23. (NAL Call No.: DNAL TP374.C6C6).

0123
High fructose corn syrup.
Coker, C.E. ; Venkatasubramanian, K. Lancaster, Pa. : Technomic Pub., c1985. Biotechnology : applications and research / edited by Paul N. Cheremisinoff, Robert P. Ouellettee, in collaboration with R.M. Bartholomew et al. p. 165-171. Includes references. (NAL Call No.: DNAL TP248.2.B545)

0124
High fructose corn syrup: Replacement for sucrose in angel cake.
Coleman, Philip E. ; Harbers, Carole A.Z. Chicago : Institute of Food Technologists. Journal of food science. Mar/Apr 1983. Presented at the 42nd Annual Meeting of the Institute of Food Technologists, Las Vegas, Nev., June 22-25, 1982. v. 48 (2). p. 452-456. ill., charts. Includes 17 references. (NAL Call No.: 389.8 F7322)
Abstract: Selected physical and sensory characteristics were studied for angel cakes having 25, 50, 75, or 100% of their sucrose replaced with first-generation high-fructose corn syrup (HFCS). Replacing 50, 75, or 100% of the sucrose with HFCS produced thinner foams (lower specific gravities), decreased foam-beating times, and resulted in angel cakes with lower volume, browner crusts, yellower crumbs, firmer texture, and decreased sweetness. Replacing only 25% of the sucrose with HFCS had little effect on these physical properties and sensory characteristics. (wz)

0125
High-fructose corn syrup replaces sugar in processed foods.
Smith, S.M. New York, N.Y. : Environmental Nutrition, Inc. Environmental nutrition. Jan 1988. v. 11 (1). p. 7-8. ill. (NAL Call No.: DNAL TX341.E5).
Abstract: A brief report highlights the use of high-fructose corn syrup (HFCS) as a substitute for sucrose in processed foods. Attention is focused on: the characteristics of HFCS; nutritional

concerns raised about the use of fructose; and on how to identify HFCS on food labels. Caution is given about excessive fructose intake. Foods containing HFCS are listed.(wz)

0126
High fructose corn syrups--for bakery applications.
Saussele, H. ur BADIA. ; Ziegler, H.F.-Weideman, J.H. Chicago : Siebel. Bakers digest. July/Aug 1983. v. 57 (4). p. 26-28. (NAL Call No.: 389.8 SI1).

0127
High-performance liquid chromatographic analysis of the major sweet principle of lo han kuo fruits.
JAFCAU. Makapugay, H.C. ; Nanayakkara, N.P.D.-Soejarto, D.D.-Kinghorn, A.D. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. May/June 1985. v. 33 (3). p. 348-350. ill. Includes references. (NAL Call No.: DNAL 381 J8223).

0128
How America quenches its thirst.
Bunch, K. ; Kurland, J. Washington, D.C. : The Service. National food review NFR - United States Dept. of Agriculture, Economic Research Service. 1984. (27). p. 14-17. (NAL Call No.: DNAL AGE aHD9001.N275).

0129
How sweet it is... or isn't.
Calvert, S. New York : American Baby, Inc. American baby. May 1986. v. 48 (5). p. 19, 24. ill. (NAL Call No.: DNAL HQ750.A244).
Abstract: Sugar comes in many forms in the average diet; recognizing these by name will benefit the parent in feeding the child. In addition to naming these sugars, where they are hidden in foods commonly consumed is discussed, along with sugar-free sweeteners. Aspartame, currently the most popular, is reviewed. Tips on curbing the child's sweet tooth are presented.(jd-p)

0130
Immobilization of xylose isomerase and trial production of high fructose corn syrup.
KKACA. Chun, M.J. ; Lim, B.S. Suwon : The Society. Han'guk Nonghwa Hakhoe chi = Journal of the Korean Agricultural Chemical Society. Dec 1983. v. 26 (4). p. 222-230. Includes 14 references. (NAL Call No.: DNAL S584.K8H3).

0131
In search of the perfect sweetener.
Crapo, P.A. New York : American Diabetes Association. Diabetes forecast. July/Aug 1985. v. 38 (4). p. 43-45. ill. (NAL Call No.: DNAL RC660.A1D5).
Abstract: The limitations and types of non-caloric alternative sweetners are discussed in a brief review of the quest for a perfect sugar substitute. Sweeteners from various roots and fruits are described (e.g., the non-caloric sweeteners stevioside and glycyrrhizin, and th protein sweeteners thaumatin and monellin), as well as the synthetic sweeteners, acesulfame K, L-sugars, dehydrochalcones, cyclamate, aspartame, and saccharin. Caloric sweeteners (fructose and the sugar alcohols, sorbitol and mannitol) also are discussed. It is concluded that none of the new sweeteners being investigated could qualify as the perfect sweetener: i.e. one that tastes like sugar, keeps like sugar, costs as little as sugar, lacks the calories of sugar and represents no potential health risk. (wz)

0132
In vitro assessment of nystose as a sugar substitute.
JONUA. Ziesenitz, S.C. ; Siebert, G. Bethesda, Md. : American Institute of Nutrition. The Journal of nutrition. May 1987. v. 117 (5). p. 846-851. ill., charts. Includes 22 references. (NAL Call No.: DNAL 389.8 J82).
Abstract: An in vitro study evaluated the hydrolysis and fermentation of nystose, a tetrasaccharide containing 2 fructose and 1 sucrose molecules, and its reactivity with human jejunal mucosa carbonydrases (HJMC), to assess its potential utility as a nonnutritive sugar substitute prior to animal and human studies. The results indicated that: nystose was relatively inert to yeast beta-fructosidase cleavage (5% of the sucrose rate); underwent anaerobic fermentation by dental plaque bacteria about 50% slower than sucrose; was not attacked by HJMC (although rat cecal flora anaerobic bacteria fermented it); and that its main fermentation products were acetic and lactic acids. It is concluded that nystose may be useful as a sweetener in diabetic diets, but that it has a definite cariogenic potential.(wz)

0133
Industrial-grade corn in Asia: New uses can make new markets.
Rackstraw, K. Washington, D.C. : The Service. Foreign agriculture - United States Department of Agriculture, Foreign Agricultural Service. Apr 1988. v. 26 (4). p. 14-16. ill. (NAL Call No.: DNAL A281.9 F76FO).

0134
Intense sweeteners in the UK (United Kingdom)--the nutritional and dietetic implications (Saccharin, aspartame, acesulfame, thaumatin).
Hennessy, T.J. London : The Foundation. Nutrition bulletin - British Nutrition Foundation. Sept 1983. v. 8 (3). p. 156-163. ill. Includes references. (NAL Call No.: TX341.B75).

0135
Is aspartame safe?.
Franz, Marion. New York : American Diabetes Association. Diabetes forecast. May/June 1984. v. 37 (3). p. 12. (NAL Call No.: DNAL RC660.A1D5).
Abstract: Several issues concerning the public health safety of using the artificial sweetener aspartame as a sugar substitute are briefly discussed.

The discussion indicates that it does not appear that the methanol formed from the breakdown of aspartame is produced in sufficient quality to do harm, or that the 2 amino acids present in aspartame (phenylalanine and aspartic acid) can produce adverse brain effects or behavior changes. Aspartame can, however, be harmful to people having the genetic phenylketonuria (PKU) disorder. Hence, products containing aspartame bear a warning for PKU sufferers. Finally, while aspartame itself contributes little to caloric intake (4 calories/g) since little is needed (180 times sweeter than sugar), at least 1 commerical product contains a gram of sugar per package (4 calories per package). Diabetics should not consume more than 2-3 packages of such products per meal. (wz)

0136
Is sweetness unitary? An evaluation of the evidence for multiple sweets.
Bartoshuk, L.M. London : Springer-Verlag, c1987. Sweetness / edited by John Dobbing. p. 33-47. Includes references. (NAL Call No.: DNAL QP456.S93).

0137
Isocratic liquid chromatography method for the simultaneous determination of aspartame and other additives in soft drinks.
JOCRAM. Argoudelis, C.J. Amsterdam : Elsevier Science Publishers. Journal of chromatography. Oct 26, 1984. v. 303 (1). p. 256-262. Includes 5 references. (NAL Call No.: DNAL 475 J824).

0138
Isomerization of D-glucose to D-fructose with the aid of gelatin-entrapped Lactobacillus brevis 74 cells containing fixed glucose isomerase.
APBMAC. Ananichev, A.V. ; Tuleuova, E.T.-Ulezlo, I.V.-Bezborodov, A.M. New York, N.Y. : Consultants Bureau. Applied biochemistry and microbiology. Translated from: Prikladnaia biokhimiia i mikrobiologiia. v. 22 (1). Jan/Feb 1986. p. 25-31. (385.P93). Jan/Feb 1986. v. 22 (1). p. 21-26. ill. Includes references. (NAL Call No.: DNAL QH345.A1P73).

0139
Jams and jellies with liquid artificial sweetener.
Crayton, E.F. Auburn University, Ala. : The Service. Circular HE - Alabama Cooperative Extension Service, Auburn University. In subseries: Home Economics, Foods and Nutrition. Sept 1987. (288). 2 p. (NAL Call No.: DNAL 275.29 AL14).

0140
Kinetics of decomposition of aspartame hydrochloride (Usal) in aqueous solutions.
JFDAZ. Prudel, M. ; Davidkova, E.-Davidek, J.-Kminek, M. Chicago, Ill. : Institute of Food Technologists. Journal of food science. Nov/Dec 1986. v. 51 (6). p. 1393-1397, 1415. ill., charts. Includes 13 references. (NAL Call No.: DNAL 389.8 F7322).
Abstract: A study examined the kinetics of decomposition of aspartame hydrochloride in aqueous solutions with respect to pH and temperature. A study of the decomposition reaction confirmed the production of diketopiperazine (DKP) and demethylated aspartame (aspartyl-phenylalanine (APA)) as decomposition products. The results indicated that DKP increased and APA decreased with increasing pH, and with increasing temperature at a low constant pH (pH 2.9). Mathematical models are developed and experimentally tested.(wz)

0141
Kinetics of the Maillard reaction between aspartame and glucose in solution at high temperatures.
Stamp, J.A. ; Labuza, T.P. Chicago : Institute of Food Technologists. Journal of food science. Mar/Apr 1983. v. 48 (2). p. 543-544, 547. ill., charts. Includes 10 references. (NAL Call No.: 389.8 F7322).
Abstract: The role of aspartame (a dipeptide low-calorie sweetening agent) in the browning reaction in a glucose solution was examined under steady-state temperature and water activity conditions to assess its stability in liquid foods (e.g., syrup). Accelerated storage conditions for 3:1 molar mixtures of glucose-aspartame (G-A) and glucose-glycine (G-G) included temperatures of 70, 80, 90, and 100 degrees C, and a water activity of 0.80. Aspartame browning followed zero-order kinetics for a time to reach 0.1 absorbance at 420 nm, of 11.4, 5.3, 2.15, and 1.0 hours for the 4 temperatures, respectively. The calculated activation energies for the G-A and G-G mixtures were 22.0 and 15.5 Kcal/mole, respectively, while their respective temperature sensitivities were 2.4 and 1.9. The predicted storage time at 45 degrees C to reach 0.1 absorbance at 420 nm was 62 days, compared to an actual measured storage time of 60 days. (wz)

0142
The legacy of cyclamate.
FOTEA. Miller, W.T. Chicago, Ill. : Institute of Food Technologists. Food technology. Based on a paper presented during the IFT Toxicology and Safety Evaluation Div. Prog. "Intense sweeteners - where's the controversy?" at the 46th anl. mtg. of the Inst. of Food Technologists, June 15-18, 1986, Dallas, TX. Jan 1987. v. 41 (1). p. 116. (NAL Call No.: DNAL 389.8 F7398).
Abstract: A brief discussion covers the historical development of cyclamate as one of the first popular artificial non-nutritive sweeteners for foods and beverages and the controversies surrounding its possible adverse health effects. Included are references to conflicting professional testimonies that cyclamate is hazardous to health, on the one hand, and that, on the other hand, it is not. A report, sponsored by FDA, to assess the available

toxicological and carcinogenesis data on cyclamate, is due in January 1987 to assist FDA in deciding whether to approve an existing petition to approve cyclamate as a food additive.(wz)

0143
Legal clearance anticipated for new non-caloric sweetner with high temperature stability.
McCormick, Richard D. Chicago, Ill. : Gorman Publishing Company. Prepared foods. May 1984. v. 153 (5). p. 165, 167-168. ill. (NAL Call No.: DNAL FNC HD9000.1.F64).
Abstract: Acesulfame potassium salt (acesulfame K), a non-caloric sweetener with broad application for foods and beverages, may be approved shortly for use in the U.S. Acesulfame K has been studied for 10 years in Europe and has been renewed and recommended for acceptance as a food sweetner by FAO/WHO. Acesulfame K is a white, crystalline substance, stable under adverse heat or PH conditions and free from toxic or mutagenic effects. Acesulfame K's physical and chemical properties are described. Equal to or superior to sweeteners on the market, it has no unpleasant aftertaste. In humans, acesulfame K is excreted unaltered in its original form. Acesulfame K can be used with equal results in baked goods, confections and a wide range of beverages because it provides the sweetness lacking in sorbital and rounds out the flat flavor of the sugar alcohol. Various other applications are possible, such as spraying it in a dry form over tea or coffee. The FDA is receiving the petition to accept this non-nutritive sweetener. (kbc)

0144
Let the battle begin...here's what you need to know to pick the winner.
New York : Scholastic, Inc. Forecast for home economics. Nov/Dec 1983. v. 29 (3). p. 36-37. ill. (NAL Call No.: 321.8 H752).
Abstract: Sugar-containing and sugar-free products are discussed. Sugar is defined, its source, availability and use in foods are described. Sugar-free food products also are described (they provide sweetness, but are low in calories or calorie free). Saccharin, aspartame and sorbitol are mentioned. (kbc)

0145
Lipoxygenase pathway in cereals.
ACSTD. Gardner, H.W. St. Paul, Minn. : American Association of Cereal Chemists. Advances in cereal science and technology. 1987. v. 9. p. 161-215. ill. Includes references. (NAL Call No.: DNAL TS2120.A3).

0146
Liquid chromatographic determination of aspartame in dry beverage bases and sweetener tablets with confirmation by thin layer chromatography.
Daniels, D.H. ; Joe, F.L. Jr.~Warner, C.R.~Fazio, T. Arlington, Va. : The Association. Journal of the Association of Offical Analytical Chemists. May/June 1984. v. 67 (3). p. 513-515. Includes references. (NAL Call No.: 381 AS7).

0147
Liquid chromatographic determination of beta-aspartame in diet soft drinks, beverage powders and pudding mixes.
JOCRAM. Lawrence, J.F. ; Iyengar, J.R. Amsterdam : Elsevier Science Publishers. Journal of chromatography. Aug 28, 1987. v. 404 (1). p. 261-266. Includes references. (NAL Call No.: DNAL 475 J824).

0148
Liquid chromatographic determination of sodium saccharin, caffeine, aspartame, and sodium benzoate in cola beverages.
JANCA2. Tyler, T.A. Arlington, Va. : The Association. Journal of the Association of Offical Analytical Chemists. July/Aug 1984. v. 67 (4). p. 745-747. Includes 4 references. (NAL Call No.: DNAL 381 AS7).

0149
Low-calorie sweeteners aspartame, saccharin, cyclamate : a report /by the American Council on Science and Health.
Meister, Kathleen A. Summit, N.J. : The Council, 1986. Cover title.~ "This report on low-calorie sweeteners was written by Kathleen A. Meister"--P. 1.~ August 1986. 52 p. : ill. ; 24 x 11 cm. Bibliography: p. 43-46. (NAL Call No.: DNAL TX571.S9L6 1986).
Abstract: It is believed by many members of the health/science community that availability of safe low-calorie sweetners in advantageous to the consumer. Three of these sweetners--aspartame, saccharin and cyclamates are reviewed in this booklet. Discussions of the nature of the substance, regulatory history/status, physiological effects, cancer studies, epidemiological studies, special populations usage, and general animal studies are addressed. References are included.

0150
Mannitol, sorbitol and lycasin: Properties and food applications.
Sicard, P.J. ; Leroy, P. London : Applied Science Pub., c1983. Developments in sweeteners-2 / edited by T.H. Grenby, K.J. Parker, M.G. Lindley. p. 1-25. ill., charts. Includes 30 references. (NAL Call No.: DNAL FNC TP421.D48 F&N B-3959).
Abstract: The sources, industrial production methods, and physico-chemical properties of 3 major polyol carbohydrates are described: sorbitol, mannitol, and a commercial product, Lycasin (a hydrogenated glucose syrup of defined composition). A variety of food applications and recipes for "sugar-free" confectionary (e.g., hard-boiled sweets, chewy sweets, hard and soft sweets, chewing gum, direct-compression confectionary tablets) using these 3 carbohydrates and their mixtures, are included. (wz)

0151
Measurement and stability of aspartame in a fruit spread.
CIFST. Dever, M.C. ; Beveridge, H.J.T.~Cumming, D.B.~MacGregor, D.R. Ottawa : The Institute. Journal - Canadian Institute of Food Science and Technology. May 1986. v. 19 (2). p. 86-88. Includes references. (NAL Call No.: DNAL TP368.C3).

0152
Metabolic adaptation of rat faecal microflora to cyclamate in vitro.
FCTOD7. Mallett, A.K. ; Rowland, I.R.~Bearne, C.A.~Purchase, R.~Gangolli, S.D. Oxford : Pergamon Press. Food and chemical toxicology. Dec 1985. v. 23 (12). p. 1029-1034. ill. Includes references. (NAL Call No.: DNAL 391.8 F73).

0153
Metabolically activated steviol, the aglycone of stevioside, in mutagenic.
PNASA. Pezzuto, J.M. ; Compadre, C.M.~Swanson, S.M.~Nanayakkara, N.P.D.~Kinghorn, A.D. Washington, D.C. : The Academy. Proceedings of the National Academy of Sciences of the United States of America. Apr 1985. v. 82 (8). p. 2478-2482. Includes 42 references. (NAL Call No.: DNAL 500 N21P).

0154
Microbial sensor for aspartame.
AMBIDG. Renneberg, R. ; Riedel, K.~Scheller, F. Berlin, W. Ger. Springer International. Applied microbiology and biotechnology. Feb 1985. v. 21 (3/4). p. 180-181. ill. Includes 10 references. (NAL Call No. DNAL QR1.E9).

0155
Microbial synthesis of the sweet-tasting plant protein thaumatin.
Eden, L. ; Wel, H. van der. Amsterdam Elsevier Science Publishers B.V. Trends in biotechnology. Literature review. Mar 1985. v. 3 (3). p. 61-64. ill. Includes 18 references. (NAL Call No.: DNAL TA166.T72).

0156
Micropropagation of Stevia rebaudiana through leaf explants from adult plants.
PLMEAA. Ferreira, C.M. ; Handro, W. Stuttgart, W. Ger. : Georg Thieme Verlag. Planta medica. Apr 1988. v. 54 (2). p. 157-160. ill. Includes references. (NAL Call No.: DNAL 450 P697)

0157
Migraine provoked by aspartame.
NEJMAG. Johns, D.R. Boston, Mass. : Massachusetts Medical Society. New England journal of medicine. Aug 14, 1986. v. 315 (7). p. 456. Includes 10 references. (NAL Call No.: DNAL FNC 448.8 N442).
Abstract. A letter to the editor by a hospital doctor describes a case study concerning a 31 year-old white woman suffering with migraine headaches attributed to ingestion of soft drinks containing the artificial sweetener, aspartame, and tablets of aspartame (1-1.5 g/day). Avoidance of all diet soft drinks and aspartame for 10 days produced a complete disappearance of all headaches. A rechallenge with aspartame solution (500 mg) produced an identical headache in 1.5 hours, which was not produced by saccharin or sucrose solutions of equal sweetness (0.22 g and 90 g, respectively). A reply letter by a medical doctor affiliated with aspartame's producer critiques the case study, associating aspartame with migraine, suggesting that the study be repeated using a double-blind, randomized, crossover, placebo-co olled design.(wz)

0158
More evidence on the safety of aspartame.
New York, N.Y. : Tufts University Diet and Nutrition Letter. Tufts University diet & nutrition letter. Feb 1988. v. 5 (12). p. 2. (NAL Call No.: DNAL TX341.T83)
Abstract. A brief report cites the contrast between prior governmental findings that aspartame is safe and reported consumer complaints of headaches reported by adults and disruptive behavior in preschool children from aspartame consumption, and discusses the results of recent studies that further indicate the safety of aspartame. A double-blind, placebo-controlled study of 40 headache sufferers from 25 states found no difference between aspartame and placebo in headache production. In another double-blind study in preschoolers, it was found that aspartame appeared to be an unlikely cause of child aggressive behavior.(wz)

0159
The multiple sweetener approach and new sweeteners on the horizon.
FOTEA. Gelardi, R.C. Chicago, Ill. Institute of Food Technologists. Food technology. Based on a paper presented during the IFT Toxicology and Safety Evaluation Div. Prog. "Intense sweeteners - where's the controversy?" at the 46th ann. mtg. of the Inst. of Food Technologists, June 15-18, 1986, Dallas, Tx. Jan 1987. v. 41 (1). p. 123-124. (NAL Call No.: DNAL 389.8 F7398)
Abstract. A brief review highlights the utility and feasibility of using combinations of low-calorie sweeteners to develop low-calorie foods having improved taste, increased stability, and lower production costs. An example of such combinations include saccharin, aspartame, and cyclamate which work very efficiently in combination and underscore the increasing importance of the multiple sweetener approach. Several newer low-calorie sweeteners also are discussed; these include acesulfame K, L-sugars, and peptide sweetener, Gemsweet, and 2 sweeteners currently available in Japan (thaumatin and stevioside). The likely high future impact of the multiple sweetener approach is stressed.(wz)

0160
Natural and artificial sweeteners.
Schiffman, S.S. London : Libbey, 1987. Food and health : issues and directions / edited by Mark L. Wahlqvist ... et al. . p. 42-48. ill. Includes 44 references. (NAL Call No.: DNAL RA784.F6).
Abstract: A technical report summarizes and discusses the chemical structures of natural and artificial sweeteners, biochemical approaches to understanding the nature of sweet receptors, electrophysiological and behavioral studies in animals, and psychophysical studies in humans implicating sodium transport and adenosine receptors. The regulatory licensing of artificial sweeteners also is addressed. The molecular nature of receptors related to the sense of sweetness is discussed.(wz)

0161
Neonatal aspartate treatment: effects on arcuate nucleus morphology, organ weights, and reproductive function (Artificial sweeteners).
Pasley, J.N. ; Powell, E.W.-Lamoreux, N. New York, N.Y. : Springer-Verlag. Bulletin of environmental contamination and toxicology. Apr 1984. v. 32 (4). p. 410-416. ill. Includes references. (NAL Call No.: RA1270.P35A1).

0162
Neurobiochemical alterations induced by the artificial sweetener aspartame (nutrasweet).
TXAPA. Coulombe, R.A. Jr. ; Sharma, R.P. New York, N.Y. : Academic Press. Toxicology and applied pharmacology. Mar 30, 1986. v. 83 (1). p. 79-85. Includes references. (NAL Call No.: DNAL 391.8 T662).

0163
Neurochemical changes following high-dose aspartame with dietary carbohydrates. (letter).
Wurtman, Richard J.NEJMA. Boston : Massachusetts Medical Society. New England journal of medicine. Aug 18, 1983. v. 309 (7). p. 429-430. charts. Includes 9 references. (NAL Call No.: 448.8 N442)
Abstract: The results of pilot rodent studies with aspartame are discussed. It is suggested that its use as an artificial sweetener for soft drinks may cause human neurochemical changes that could have functional or behavioral consequences. The results show that, if aspartame-containing beverages are consumed with normal dietary carbohydrates, the effect of aspartame on brain composition is enhanced. Carbohydrates cause an insulin-mediated decrease in branched-chain amino acid levels that compete with phenylalanine and tyrosine across the blood-brain barrier. The results of 1 experiment showed that aspartame almost doubled rat brain phenylalanine levels, an effect which redoubled if carbohydrate also was consumed. The aspartame dose used in the study was consistent with the amount of aspartame an 8-year-old child might consume in soft drinks on a hot afternoon. (wz)

0164
New concepts in sweetener development--safety assessment revisited.
FOTEA. Wagner, B.M. Chicago, Ill. : Institute of Food Technologists. Food technology. Based on a paper presented during the IFT Toxicology and Safety Evaluation Div Prog, "Intense sweeteners: where's the controversy?" at the 46th anl mtg of the Inst of Food Technologists, June 15-18, 1986, Dallas, TX. Jan 1987. v. 41 (1). p. 122, 124. (NAL Call No.: DNAL 389.8 F7398).
Abstract: A brief technical commentary raises the question of whether aspartame might be an appropriate model for future development of new artificial sweeteners as food and beverage additives, specifically with regard to the extensive safety testing that was used for aspartame prior to its petition to FDA for approval for marketing. Criteria are discussed for epidemiological studies as well as for animal and mutagenicity tests to assess possible health effects on new artificial sweeteners.(wz)

0165
The new intense sweetener acesulfame K.
FOCHD. Von Rymon Lipinski, G.W. London, Eng. . Applied Science Publishers. Food chemistry. Paper presented at the symposium on "Recent Developments in Sweeteners," Oct. 26, 1984, London. 1985. v. 16 (3/4). p. 259-269. Includes references. (NAL Call No.: DNAL TX501.F6).

0166
The new way to sugar-free recipes /by Laura J. Stevens. --.
Stevens, Laura J., 1945-. Garden City, N.Y. : Doubleday, 1984. Includes index. xxi, 104 p. ; 19 cm. (NAL Call No.: DNAL RM237.85.S7 1984).
Abstract: Individuals who are concerned about sugar consumption and would consider using Equal brand sweetener (aspartame) as a substitute can turn to this slim volume for recipes that are sugar-free and use Equal. The introduction provides some background and tips on using the sweetener. The recipes are presented in 10 categories: condiments-sauces-toppings, jams-jellies-fruit butter, salad dressings and dip, fruit and vegetable dishes, puddings, ice cream and other frozen treats, pies, desserts, other sweet treats, and beverages. (as)

0167
Nutrasweet's perspectives on "the outlook for alternative sweeteners".
Krail, K. Washington : The Department. Outlook - Proceedings, Agricultural Outlook Conference, U.S. Department of Agriculture. Feb 1987. (63). p. 356-369. (NAL Call No.: DNAL 1.90 C20U8).

0168
Nutrition and diabetes /editors, Lois Jovanovic, Charles M. Peterson.
; Jovanovic-Peterson, Lois.-Peterson, C. M. New York : A.R. Liss, c1985. x, 208 p. : ill. ; 24 cm. Includes bibliographies and index. (NAL Call No. DNAL RC660.N84).
Abstract: In this volume, 12 contributors discuss various aspects of diabetes mellitus. The book begins with a history of diabetes, adult and juvenile onset. Past and present methods of dietary therapy are presented, as well as indepth information regarding the types and doses of insulin. In addition, complications and concurrent diseases are discussed at length, especially regarding the interrelationships with diabetes. This comprehensive book is professional oriented.

0169
Nutritional studies on maltitol. 1. Acceptability, energetic yield, effects on growth and blood biochemical parameters (Sugar substitutes, rats).
Maranesi, M. ; Gentili, S.-Carenini, G. Milano. Gruppo Lepetit. Acta vitaminologica et enzymologica. 1984, v. 6 (1), p. 3-9. ill. Includes 23 references. (NAL Call No. 448.8 AC8).

0170
Nutritional studies on maltitol. 2. Effect on lipid metabolism and fatty acid composition of different rat tissues (Sugar substitutes).
Maranesi, M. ; Barzanti, V.-Gentili, S.-Carenini, G. Milano. Gruppo Lepetit. Acta vitaminologica et enzymologica. 1984, v. 6 (1), p. 11-15. Includes 7 references. (NAL Call No. 448.8 AC8).

0171
Nutritive sucrose substitutes and dental health.
Grenby, T.H. London : Applied Science Pub., c1983. Developments in sweeteners-2 / edited by T.H. Grenby, R.J. Parker, M.G. Lindley. Literature review, p. 51-86. Includes 150 references. (NAL Call No. DNAL FNC TP421.D48 F&N E-3959).
Abstract: Dental caries and obesity associated with sucrose consumption in the United Kingdom are briefly examined. Attention is given to the degree of potential benefit in using various carbohydrates. Of 4 alternative nutritive sweeteners, sugars (glucose, fructose, maltose, sorbose), sugar alcohols (sorbitol, mannitol, xylitol, maltitol, etc.), starch hydrolysates (glucose syrups, high-fructose syrups, hydrogenated glucose syrups (Lycasin)), and other products (coupling sugar) are examined. Information is provided regarding source, composition, nutritional considerations, oral hygiene effects, clinical and animal testing, and physiological effects. (wz)

0172
Nyctotheroides puytoraci as a new protozoan test animal for detecting the carcinogenicity of saccharin, cyclamate, or bracken fern (Pteridium aquilinum).
El-Mofty, M.M. ; Sadek, I.A.-Essawy, A.E. Praha, Czechoslovakia : Academia. Folia morphologica, 1983, v. 31 (2), p. 201-207. (NAL Call No. 444.8 C33).
Nyctotheroides puytoraci, use as new protozoan test animal for detecting carcinogenicity of saccharin, cyclamate, and bracken fern, in vivo and in vitro studies.

0173
Oral xylitol in American adults.
NURHA. Culbert, S. ; Wang, Y.M.-Fritsche, H.A. Jr.-Carr, D.-Lantin, E.-van Eys, J. Elmsford, N.Y. : Pergamon Press. Nutrition research, Aug 1986, v. 6 (8), p. 913-922. charts. Includes 22 references. (NAL Call No. DNAL QP141.A1N88).
Extract: Twelve healthy adult subjects were given xylitol in incrementally increasing daily doses from 30 g in 3 doses to 100 g in two doses along with a regulated diet. All subjects encountered dose related gastrointestinal side effects. One subject was intolerant of doses greater than 20 g. Eleven subjects tolerated daily doses to 100 g. All subjects encountered diarrhea of varying degree with adaptation being observed in most subjects. Gastrointestinal side effects may limit the maximum tolerated xylitol dosage to 20 g per dose up to 60 g per day. Biochemical parameters all remained within normal range with a ... more significant increase in uric acid being observed during a brief period of administration. These results suggested that oral xylitol in combination with normal American diet imposes no side effect other than gastrointestinal intolerance as those observed in west Germany and Scandinavian countries. (wz)

0174
Paradoxical effects of an intense sweetener (aspartame) on appetite.
Blundell, J.E. ; Hill, A.J. Boston, Mass. : Little, Brown and Company. The Lancet, May 10, 1986, v. 1 (8489), p. 1092-1093. ill. Includes 12 references. (NAL Call No. DNAL 448.8 L22).
Abstract: A study assessed the effects of aspartame or some measures involved in appetite control in 85 young adult volunteers (ages 18-22). The overall data indicate that aspartame, in some circumstances, has appetite-stimulating properties relative to the ingestion of water. However, there appeared to be a contrast between the effects of aspartame on alliesthesia (suggesting appetite suppression) and its effects on motivation to eat (suggesting a facilitation of appetite or an absence of appetite suppression). Hence, individuals consuming aspartame may receive ambiguous signals that are important for the control of appetite and food ingestion. (wz)

0175
Perspective on aspartame.
Kroger, M. ; Brown, J.L. Philadelphia, Pa. : George F. Stickley Company. Nutrition forum. Oct 1984. v. 1 (1). p. 2-4. (NAL Call No.: DNAL TX341.N877).
Abstract: A technical report discusses the discovery and application of aspartame as a sugar substitute and details 6 areas that have been investigated concerning the safety of aspartame consumption. The report concludes that: methanol produced from aspartame does not appear to be harmful; phenylalanine produced from aspartame does not appear to alter brain neurotransmitter levels or produce abnormal behaviors; neither diketopiperazine produced from aspartame nor aspartame itself produces carcinogenic nitrosamines; aspartame does not promote tooth decay; aspartame is safe for diabetics; and phenylalanine produced from aspartame may elevate neural health risks in infants with phenylketonuria.(wz)

0176
Phenylalanine and aspartame fail to alter feeding behavior, mood and arousal in men.
PHBHA. Ryan-Harshman, M. ; Leiter, L.A.-Anderson, G.H. Elmsford, N.Y. : Pergamon Press. Physiology & behavior. 1987. v. 39 (2). p. 247-253. Includes references. (NAL Call No.: DNAL QP1.P4).

0177
Plasma amino acid concentrations in normal adults fed meals with added monosodium L-glutamate and aspartame.
Stegink, Lewis D. ; Filer, L.J. Jr.-Baker, George L. Bethesda : American Institute of Nutrition. The Journal of nutrition. Sept 1983. v. 113 (9). p. 1851-1860. ill., charts. Includes 41 references. (NAL Call No.: 389.8 J82).
Abstract: Additions of monosodium glutamate (MSG) to a hamburger and milkshake meal significantly increased plasma glutamate and aspartate levels above those noted after the meal alone. Addition of aspartame to the meal containing MSG did not further increase plasma concentration of glutamate and aspartate. Aspartame addition did, however, significantly increase the mean phenylalanine concentration above that noted after consumption of the meal alone or after the MSG meal. (emc)

0178
Plasma amino acid concentrations in normal adults ingesting aspartame and monosodium L-glutamate as part of a soup/beverage meal.
METAA. Stegink, L.D. ; Filer, L.J. Jr.-Baker, G.L. Philadelphia, Pa. : Grune & Stratton. Metabolism, clinical and experimental. Nov 1987. v. 36 (11). p. 1073-1079. Includes references. (NAL Call No.: DNAL 448.8 M56).

0179
Position of the American Dietetic Association: appropriate use of nutritive and non-nutritive sweeteners.
JADAA. Chicago, Ill. : The Association. Journal of the American Dietetic Association. Dec 1987. v. 87 (12). p. 1689-1690. (NAL Call No.: DNAL FNC 389.8 AM34).
Abstract: Consumption of sweeteners, both nutritive and non-nutritive, is often regarded as a cause of various health problems. Even though sweeteners do not contribute to the nutritional value of the diet, they do have a role in an otherwise well-balanced diet for persons who choose to use sweeteners. Sucrose and/or corn sweeteners are considered the most frequently used sweeteners. Others considered here are sorbitol, mannitol, xylitol, aspartame, saccharin, and cyclamates. The American Dietetic Association recommends that individuals use moderation in their consumption of both nutritive and non-nutritive sweeteners.

0180
A possible function for thaumatin and a TMV-induced protein suggested by homology to a maize inhibitor.
NATUAS. Richardson, M. ; Valdes-Rodriguez, S.-Blanco-Labra, A. Neptune, N.J. : Macmillan Journals. Nature. June 4/10, 1987. v. 327 (6121). p. 432-434. Includes references. (NAL Call No.: DNAL 472 N21).

0181
Possible neurologic effects of aspartame, a widely used food additive.
EVHPA. Maher, T.J. ; Wurtman, R.J. Research Triangle Park, N.C. : National Institute of Environmental Health Sciences. E H P Environmental health perspectives. Nov 1987. v. 75. p. 53-57. ill. Includes references. (NAL Call No.: DNAL RA565.A1E54).

0182
Potential effects of the dipeptide sweetener aspartame on the brain.
NUBRD. Pardridge, W.M. New York : Raven Press. Nutrition and the brain. Literature review. 1986. v. 7. p. 199-241. ill., charts. Includes 138 references. (NAL Call No.: DNAL QP376.N86).
Abstract: A major technical review summarizes and discusses the possible ways by which high aspartame (AT) doses or AT metabolites produced during AT digestion might have neurochemical effects that could underlie the neurological or behavioral side-effects of AT consumption. Topics include: possible effects of daily AT intake; considerations of methanol and aspartic acid metabolism; the effects of aspartame dipeptides; major biochemical effects of phenylalanine released in vivo from AT; and the effects of the AT metabolite, beta-phenethylamine. This review strives to provide a physiological basis for possible future studies of the potential effects of AT on the human brain and human behavior.(wz)

0183
Precursor control and influence of aspartame on midbrain dopamine neurons.
Tam, S.Y. ; Ono, N.-Roth, R.H. New York : Alan R. Liss. UCLA symposia on molecular and cellular biology. In the series analytic: Amino acids in health and disease : new perspectives / edited by S. Kaufman. Proceedings of a Symposium, May 30-June 4, 1986, Keystone, Colorado. 1987. v. 55, p. 421-435. Includes references. (NAL Call No.: DNAL QH506.U34).

0184
Preliminary economic feasibility analysis of high fructose corn syrup processing in the United States with emphasis on North Dakota /by Scott M. Wulff and Delmer L. Helgeson.
Wulff, Scott M. Fargo, N.D. : Department of Agricultural Economics, North Dakota State University, 1987. Cover title.- "September 1987.". viii, 27 p. : ill., maps ; 28 cm. Bibliography: p. 27. (NAL Call No.: DNAL 281.9 N814A no.229).

0185
Production of high fructose corn syrup in the USA (Includes analytical methods, processing at various stages: liquification, saccharification and purification).
Blanchard, P.H. ; Geiger, E.C. Amsterdam : Elsevier Scientific. Sugar technology reviews. Apr 1984. Literature review. v. 11 (1), p. 1-94. ill. Includes references. (NAL Call No.: TP375.S95).

0186
Recent developments in non-nutritive sweeteners.
Higginbotham, J.D. London : Applied Science Pub., c1983. Developments in sweeteners-2 / edited by T.H. Grenby, K.J. Parker, M.G. Lindley. p. 119-155. ill., charts. Includes 123 references. (NAL Call No.: DNAL FNC TP421.D48 F&N B-3959).
Abstract: The current status and recent developments of 2 groups of industrial-produced non-nutritive sweeteners are discussed: (1) general purpose, wide-use sweeteners; and (2) specialized sweeteners having properties other than sweetness. Specific attention is given to saccharin; cyclamates; aspartame; an acetoacetic acid derivative, acesulfame-K; the Japanese high-intensity sweetener, stevioside; Talin sweetener (thaumatin); glycyrrhizin; dihydrochalcones; and several newer synthetic sweeteners. The sweeteners covered are either currently in commercial production or are close to being marketed. Advantages, limitations, and applications of these sweeteners are discussed. (wz)

0187
Regulatory issues on aspartame--"Nutrasweet".
QBAOD. Phelps, J.R. York, Pa. : The Association. Quarterly bulletin - Association of Food and Drug Officials. Paper presented at the New England Food and Drug Officials Conference, May 15, 1985, Moodus, Conn. Apr 1986. v. 50 (2), p. 96-101. (NAL Call No.: DNAL 389.9 AS7Q).

0188
Relationship between carbohydrate sweeteners and oral diseases.
PFNSD. Makinen, K.K. ; Isokangas, P. Elmsford, N.Y. : Pergamon Press. Progress in food and nutrition science. Literature review. 1988. v. 12 (1), p. 73-109. charts. Includes 162 references. (NAL Call No.: DNAL FNC QP141.A1P72).
Abstract: A technical review examines the results of all reported long-term human clinical caries trials on the effect of various carbohydrate sweeteners on dental caries and dental plaque formation. Tabulations are included of the effect of bulk sweeteners, bulking agents, and other carbohydrate compounds affecting the cariogenic nature of foods, and of the effects of sugar substitutes on the amount of human dental plaque formed. Animal studies also are discussed. (wz)

0189
Relationship between density, temperature, and dry substance of commercial corn syrups, high-fructose corn syrups, and blends with sucrose and invert sugar.
Wartman, A.M. ; Spawn, T.D.-Ellason, M.A. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. Sept/Oct 1984. v. 32 (6), p. 971-974. Includes 9 references. (NAL Call No.: 381 J8223).

0190
Repeated ingestion of aspartame-sweetened beverage: effect on plasma amino acid concentrations in normal adults.
METAA. Stegink, L.D. ; Filer, L.J. Jr.-Baker, G.L. Philadelphia, Pa. : Grune & Stratton. Metabolism, clinical and experimental. Mar 1988. v. 37 (3), p. 246-251. Includes references. (NAL Call No.: DNAL 448.8 M56).

0191
Reverse phase liquid chromatographic determination of aspartame in beverages and beverage mixes (Sugar substitutes, sweeteners).
Webb, N.G. ; Beckman, D.D. Arlington, Va. : The Association. Journal of the Association of Offical Analytical Chemists. May/June 1984. v. 67 (3), p. 510-513. Includes references. (NAL Call No.: 381 AS7).

0192
Reversed-phase high-performance liquid chromatographic separation of aspartame diastereomeric decomposition products.
JOCRAM. Gaines, S.M. ; Bada, J.L. Amsterdam : Elsevier Science Publishers. Journal of chromatography. Feb 27, 1987. v. 389 (1), p. 219-225. ill. Includes references. (NAL Call No.: DNAL 475 J824).

0193
A review of epidemiological studies on artificial sweeteners and bladder cancer.
FCTOD7. Morgan, R.W. ; Wong, O. Oxford : Pergamon Press. Food and chemical toxicology. Apr/May 1985. v. 23 (4/5). p. 529-533. Includes references. (NAL Call No.: DNAL 391.8 F73).

0194
Risk-benefit analyses of new sugar substitutes: 1. Nutritional-physiological investigations on the osmotic effect and release of glucose in juvenile rats.
Lorenz, S. ; Grossklaus, R. New York, N.Y. : Pergamon Press. Nutrition research. May/June 1984. v. 4 (3). p. 447-458. ill. Includes references. (NAL Call No.: QP141.A1N88).

0195
The role of the diet in improving glycemic control.
Menendez, C.E. ; Stoecker, B.J. New York : A.R. Liss, c1985. Nutrition and diabetes / editors, Lois Jovanovic, Charles M. Peterson. Literature review. p. 15-36. Includes 97 references. (NAL Call No.: DNAL RC660.N84).
Abstract: A detailed technical review summarizes and discusses recently proposed programs which may improve glycemic control in diabetic patients. Particular emphasis is on significant developments for direct use by health care professionals, and on other nutritional aspects or programs that are more speculative in nature. Specific attention is given to: the control of total dietary carbohydrates; the utility of high fiber diets; differences in glycemic response between dietary carbohydrates; nutritive/nonnutritive sweeteners as substitutes for dietary glucose and sucrose; and studies on chromium supplementation, starch blockers, and pyridoxine supplementation.(wz)

0196
Safety evaluation of glucose isomerase derived from Flavobacterium arborescens and used in production of high fructose corn syrup (Sweetener).
Porter, M.C. ; Hartnagel, R.E. Jr.~Kowalski, R.L.~Clemens, G.R.~Jasty, V. Ames, Iowa : International Association of Milk, Food, and Environmental Sanitarians. Journal of food protection. May 1984. v. 47 (5). p. 359-371. Includes references. (NAL Call No.: 44.8 J824).

0197
Safety evaluation of thaumatin (talin protein) (Sweetener isolated from fruit of the West African perennial plant Thaumatococcus daniellii).
Higginbotham, J.D. ; Snodin, D.J.~Eaton, K.K.~Daniel, J.W. Oxford : Pergamon Press. Food and chemical toxicology. Dec 1983. v. 21 (6). p. 815-823. Includes references. (NAL Call No.: 391.8 F73).

0198
The safety of aspartame.
Van Nuys, Calif. : Nutrition & the M.D. Nutrition & the M.D. Sept 1986. v. 12 (9). p. 1. (NAL Call No.: DNAL TX341.N836).
Abstract: Case studies concerning the safety of the artificial sweetener, aspartame, focus on the question of 2 of its metabolic products, methanol and phenylalanine. It is noted that the small amounts of methanol that are performed in beverages or released when aspartame is digested represent no public health concern and although phenylalanine is a precursor of neurotransmitters, no major changes in neurotransmitter activity or behavior were caused by large doses of aspartame. It has been noted, however, that aspartame may be a possible cause of hives.(wz).

0199
Safety of cyclamates questioned by experts.
Washington, D.C. : Community Nutrition Institute. Nutrition week. Mar 7, 1985. v. 15 (10). p. 4-5. (NAL Call No.: DNAL TX341.C6).
Abstract: Presenting testimony of three researchers at a National Academy of Sciences public hearing held in 1985, the article attempts to show that the safety of cyclamates is still highly questionable. Although the Food and Drug Administration has reversed its findings as to the carcinogenicity of the chemical sweetener, birth defects, high blood pressure, and testicular atrophy are still suspect effects. The latter is discussed here, and conclusions are that danger does exist with this chemical. One soft drink per day may constitute a safe level for consumption (Allowable Dietary Intake).(jd-b)

0200
Sensory evaluation of soft drinks with various sweeteners.
PHBHA. Schiffman, S.S. ; Crofton, V.A.~Beeker, T.G. Elmsford, N.Y. : Pergamon Press. Physiology & behavior. Mar 1985. v. 34 (3). p. 369-377. Includes 16 references. (NAL Call No.: DNAL QP1.P4).

0201
Sensory evaluation used as a tool for studying the acceptability of a new sun tea beverage.
Skelton, Marilyn. Westport, Conn. : Food and Nutrition Press. Journal of foodservice systems. 1984. v. 3 (2). p. 107-119. ill., forms. Includes 14 references. (NAL Call No.: DNAL FNC TX901.J54).
Abstract: Triangle tests were used to compare the acceptability of a sun tea beverage to a control tea brewed at a higher temperature and to a retail canned tea containing sugar and lemon. Two sweetner saccharin and aspartame, were compared in a separate study. Significant differences were found between each pair of tea beverages. Between the 1st and 2nd acceptance trials the judges were given information

on the form of tea and type of sweetener used in the trials. Acceptance scores were influenced by prior knowledge of the variation in the sample. Panelists did not prefer one tea over another in the blind tests; however, when they knew that one tea was brewed at home (the sun tea), that was the preferred tea. The judges could distinguish between the two sweeteners. The acceptance score for the saccharin sweetened product was lower after the judges were informed of the sweetener used. There was no decrease in acceptability of the aspartame sweetened product after the sweetener was identified. Samples of the score cards used in the study are included. Implications of the use of sensory testing by foodservice operations is discussed. (emc)

0202
Sensory quality of selected sweeteners: aqueous and lipid model systems.
JFDAZ. Redlinger, P.A. ; Setser, C.S. Chicago, Ill. : Institute of Food Technologists. Journal of food science. Mar/Apr 1987. v. 52 (2). p. 451-454. Includes references. (NAL Call No.: DNAL 389.8 F7322).

0203
Sensory quality of selected sweeteners: unbaked and baked flour doughs.
JFDAZ. Redlinger, P.A. ; Setser, C.S. Chicago, Ill. : Institute of Food Technologists. Journal of food science. Sept/Oct 1987. v. 52 (5). p. 1391-1393, 1413. Includes references. (NAL Call No.: DNAL 389.8 F7322).

0204
Serum methanol concentrations in rats and in men after a single dose of aspartame.
FCTOD7. Davoli, E. ; Cappellini, L.-Airoldi, L.-Fanelli, R. Oxford : Pergamon Press. Food and chemical toxicology. Mar 1986. v. 24 (3). p. 187-189. Includes references. (NAL Call No.: DNAL 391.8 F73).

0205
Sister chromatid exchange as a test for mutagenic carcinogens (Saccharin, cyclamates, UES).
Wolff, S.ANYAA. New York : The Academy. Annals of the New York Academy of Sciences. 1983. Literature review. v. 407. p. 142-153. Includes references. (NAL Call No.: 500 N484).

0206
The Soft drink industry responds to consumer concerns.
Hatfield, Denise. New York : Scholastic, Inc. Forecast for home economics. Jan 1985. v. 30 (4). p. 16-18. charts. (NAL Call No.: DNAL 321.8 H752).
Abstract: Caffeine and the non-caloric sweeteners in soft drinks concern consumers more than artifical flavors and colors. Both cyclamates and saccharine have been banned, however, Congress has extended the moratorium on saccharine several times, and a further extension expires in April 1985. Investigations of aspartame have not supported consumer complaints. The average range of sodium, another ingredient of general concern, is 6-108 mg for a 12-oz can. (emc)

0207
Special dietary foods.
FRINEL. Dwivedi, B.K. New York : Marcel Dekker. Food reviews international. 1986. v. 2 (2). p. 171-212. ill. Includes references. (NAL Call No.: DNAL TX341.F662).

0208
Spectrophotometric determination of cyclamate in foods: NMKL collaborative study.
JANCA2. Sjoberg, A.M.K. ; Alanko, T.A. Arlington, Va. : The Association. Association of Official Analytical Chemists journal. May/June 1987. v. 70 (3). p. 588-590. Includes references. (NAL Call No.: DNAL 381 AS7).

0209
Stability studies of stevioside and rebaudioside A in carbonated beverages (Sweet-tasting compounds in the leaves of Stevia rebaudiana).
Chang, S.S.JAFCA. ; Cook, J.M. Washington : American Chemical Society. Journal of agricultural and food chemistry. Mar/Apr 1983. v. 31 (2). p. 409-412. ill. Includes references. (NAL Call No.: 381 J8223).

0210
Staying lean and lite: an update on sweeteners.
Denver, Colo. : American School Food Service Association. School foodservice journal. Dec 1986. v. 40 (10). p. 32-34. ill. (NAL Call No.: DNAL 389.8 SCH6).
Abstract: Because staying lean while enjoying sweets is the preference of many consumers, much research continues in the area of development of artificial sweeteners. L-sugar, alitame, and acesulfame K are three of the non-caloric sweeteners that appear to be promising alternatives. In addition to a discussion of these sweeteners, a history of low-calorie sweeteners in the United States is reviewed, including a discussion of aspartame and saccharin.(jd-b)

0211
Sterebins E, F, G and H, diterpenoids of Stevia rebaudiana leaves.
PYTCA. Oshima, Y. ; Saito, J.-Hikino, H. Oxford : Pergamon Press. Phytochemistry. 1988. v. 27 (2). p. 624-626. Includes references. (NAL Call No.: DNAL 450 P5622).

0212
Studies on synthetic sweetening agents. XVIII. Metabolism of sodium cyclamate. 7. Dicyclohexylamine, a metabolite of sodium cyclamate in rabbits and rats.
Suenaga, A.CPBTA. ; Wada, T.-Ichibagase, H. Tokyo : Pharmaceutical Society of Japan. Chemical & pharmaceutical bulletin. June 1983. v. 31 (6). p. 2079-2084. Includes references. (NAL Call No.: RM1.C5).

0213
Studies on the nature of seed dormancy of the serendipity berry Dioscoreophyllum cumminsii Diels.
Uzo, J.O. The Hague : International Society for Horticultural Science. Acta horticulturea. Dec 1983. Paper presented at the "Sixth African Symposium on Horticultural Crops," 19-25 July, 198 , Ibadan, Nigeria. Dec 1983. (123). p. 197-205. Includes references. (NAL Call No.: 80 AC82).

0214
Studies on the tissue culture of Stevia rebaudiana and its components. II. Induction of shoot primordia.
PLMEAA. Miyagawa, H. ; Fujioka, N.-Konda, H.-Yamasaki, K.-Taniguchi, K.-Tanaka, R. Stuttgart, W. Ger. : Thieme-Stratton. Planta medica = journal of medicinal plant research. Aug 1986. (4). p. 321-323. ill. Includes references. (NAL Call No.: DNAL 450 P697).

0215
Studies to identify, isolate, develop and test naturally occurring noncariogenic sweeteners that may be used as dietary sucrose substitutes /A.D Kinghorn ... et al. --.
: Kinghorn, A. D. Bethesda, MD : National Institute of Dental Research, NIH ; Springfield, Va. : Reproduced by NTIS, 1983. Final report - Comprehensive technical report for the period 06/25/80-09/24/83 - "Contract no. NO1-DE-02425." - "NIDR-C-85-01." - "PB85-158079." - iii, 29 leaves : ill. ; 28 cm. Bibliography: leaves 28-29. (NAL Call No.: DNAL TP422.S7).

0216
Substrate protection of immobilized glucose isomerase.
BIBIAU. Chen, K.C. ; Wu, J.Y. New York, N.Y. : John Wiley & Sons. Biotechnology and bioengineering. Nov 1987. v. 30 (7). p. 817-824. ill. Includes references. (NAL Call No.: DNAL 381 J8224).

0217
Sugar: Is our sweet tooth killing us.
Brody, Jane. New York : Scholastic, Inc. Forecast for home economics. April 1983. v. 28 (8). p. 39-42. charts. (NAL Call No.: 321.8 H752).
Abstract: Sugar accounts for 24% of the calories consumed daily by the average American (14% from refined sugar, 4% from processed sugars, 6% from natural sources). Sugar is being blamed for many of today's health problems, such as tooth decay, overweight, diabetes, hypoglycemia, and heart disease. Constant vigilance is necessary if sugar is to be minimized in the diet. Don't buy sweet snacks or candy; eat fresh fruit; don't use sweets as a reward; eliminate soft drinks; reduce the amount of sugar used in coffee or tea; try new food combinations to create sweet flavors without adding sugar; and read labels on all processed foods. (kbc)

0218
Sugar substitute in FDA's limbo.
Lowell, J.A. Philadelphia, Pa. : George F. Stickley Company. Nutrition forum. Feb 1987. v. 4 (2). p. 14. (NAL Call No.: DNAL TX341.N877).
Abstract: Stevia, an herbal sweetener widely used in Paraguay and Brazil, has found its way into markets in other parts of the world. Unlike aspartame, it does not break down under high temperatures. Not yet on the FDA's "generally recognized as safe list" (GRAS), questions have arisen over the years as to the herb's safety. What these concerns are and experiments conducted to determine possible effects are discussed.(jd-b)

0219
Sugar substitutes and alternative sweeteners.
MacLean, J.T. Beltsville, Md. : The Library. Quick bibliography series - National Agricultural Library (U.S.). Updates Quick Bibliography 84-49.- Bibliography. May 1985. (86-68). 15 p. (NAL Call No.: DNAL aZ5071.N3).

0220
Sugar substitutes and alternative sweetners, 1979-1984 (Includes adverse effects).
MacLean, J.T. Beltsville, Md. : The Library. Quick bibliography series - National Agricultural Library. July 1984. Bibliography. July 1984. (84-49). 16 p. (NAL Call No.: aZ5071.N3).

0221
Sugar substitutes in the treatment of obesity and diabetes mellitus.
Finer, N. St. Louis, Mo. : C. V. Mosby Company. Clinical nutrition. Nov/Dec 1985. v. 4 (6). p. 207-214. ill. Includes 119 references. (NAL Call No.: DNAL RM216.M342)
Extract: Sugar consumption and the use of nonnutritive sweetening agents have increased over the past 25 years. Nonnutritive sweeteners are consumed and marketed in the belief that they are an aid in weight control, although there is no evidence for such efficacy. The substitution of artificially sweetened foods in the diet will not necessarily prevent a compensatory increase in energy intake from other foods. There is a trend toward advising patients with diabetes to increase the proportion of their diet that is supplied by carbohydrates. Theoretic grounds would suggest that complex polysaccharides are to be preferred to the simpler sugars such as glucose and sucrose. However, there are no studies that show a clinical benefit from the exclusion of sucrose, taken with meals, from the diabetic diet. There are no major disadvantages from sugar substitutes in the diabetic diet. Despite their widespread popularity there is no good evidence that favors the use of either nutritive or nonnutritive sweeteners in treating diabetes or obesity.(author)

0222
Sugars and dental decay.
Sheiham, Aubrey. Boston, Mass. : Little, Brown and Company. The Lancet. Feb 5, 1983. v. 1 (8319). p. 282-284. Includes 23 references. (NAL Call No.: 448.8 L22).
Abstract: The role of sugars in dental caries causation and policies for prevention of dental caries are reviewed and discussed. The cariogenic activity of sugars decreases from sucrose to glucose to fructose, with brown sugars being as cariogenic as white. Examining dose-response data, it appears that most of the population would be protected from sugar-induced dental caries at a consumption level of 15 kg/person/year or less. Policies aimed at achieving this as an objective include: the avoidance of sugar additions to dietary items such as baby foods; the development of a variety of sugar-free snacks and drinks; the use of non-cariogenic sweeteners as substitutes for sucrose and glucose additions to foods, confections, and beverages; the modification of sugar-containing foods to render them less cariogenic; the reduction of the amounts of sugars added to commonly-consumed foods; and public education on the relationship of sugars to dental health. (wz)

0223
Sweet options: The real story behind the new "sugars."
Wesley, Myra M. ; Rudd, Sue Gibson. New York, : Scholastic, Inc. Forecast for home economics. Nov/Dec 1983. v. 29 (3). p. 34-35, 111. (NAL Call No.: 321.8 F762).
Abstract: Alternatives to sugar as a sweetening agent are discussed. Aspartame (APM), marketed under the brand name NutraSweet, is the newest non-nutritive sweetener and is an alternative to saccharin. It competes with sugar for sweetness and with saccharin for low calories. Its discovery in 1965 and approval for use in foods by FDA in 1981 are discussed. APM at the present time can be used only in cold foods or foods that don't need heating. Currently, it is being used in more than 40 products in 23 countries. Maximum per day intake is projected to be 34 mg/kg/day or 2 grams of APM each day. APM contains phenylalanine and is classified as phenylketonuric. Parents with children who have phenylketonuria must be made aware of these food products and their potential health hazard. Aspartame labels are required on the containers of all products using APM. The safety of saccharin continues to be studied because it causes cancer in laboratory animals. Until APM was approved for food products, saccharin monopolized the low-calorie market for sweeteners. APM and saccharin may eventually be combined for use in food products because APM is very expensive. An update on cyclamate and sugar alcohols plus 8 other sweetening options that might appear in future food products are given. (kbc)

0224
Sweet proteins and their genes.
Vinetskii, Yu P. New York, N.Y. : Allerton Press. Soviet biotechnology. Translated from: Biotekhnologiya. (5). 1987. p. 553-558. (TP248.2.B57). 1987. (5). p. 4-6. Includes references. (NAL Call No.: DNAL TP248.13.S68).

0225
Sweet talk: media coverage of artificial sweeteners /Philip F. Lawler.
Lawler, Philip F. Washington, D.C. : Media Institute, 1986. 92 p. ; 23 cm. Bibliography: p. 93-96. (NAL Call No.: DNAL TX571.S9L39).
Abstract: The media has been reporting on artificial sweeteners since cyclamate was banned nearly 20 years ago. This publication addresses the question of whether or not the media has influenced the debate over the safety of artificial sweeteners (especially aspartame). Media reviewed in this context are the New York Times, The Washington Post, Time, Newsweek, and the three major national television networks. The history of the artificial sweetener controversy, including important scientific positions, the role that special interest groups play to manipulate the media, the assessment of accurate reporting, comparing various methods of media reporting the artificial sweetener debate, and the question of quality of media coverage of the artificial sweetener issue over the years, are topics discussed.

0226
Sweetener safety: the bitter debate.
Alth, C.R. ; Chapp, P.A. New York, : American Diabetes Association. Diabetes forecast. Sept/Oct 1985. v. 38 (5). p. 34, 36-37. (NAL Call No.: DNAL RC660.A1D5).
Abstract: A health report reviews and discusses the safety, current regulatory status, and historical changes concerning various artificial sweeteners. Specific attention is focused on 3 such sweeteners, viz. saccharin, cyclamate, and aspartame. Guidelines for the use of sweeteners by diabetics are included.

0227
Sweeteners.
New York, : Bill Communications, Institutional distribution. Oct 1985. v. 27 (12). p. 297-298, 300-301, 311. (NAL Call No.: DNAL FNC HD9000.1.I5).
Abstract: The availability and uses of various types of sugars, other nutritive sweeteners, and non-nutritive sweeteners are discussed. The various forms of sugar include fine granulated (regular), sugar cubes, super-fine, Baker's special (large baking operations), sanding (cookie and cake decorations), turbinado (unrefined), powdered (confectioners', of different grades), and brown (light and dark). Other nutritive sweeteners include honey (the oldest known), molasses (a by-product of cane and beet sugar), and corn syrup. Non-nutritive sweeteners discussed are saccharin (the oldest) and

aspartame.(wz)

0228
Sweeteners: caloric and noncaloric.
Beaudette, T. (ed.). Littleton, Colo. : Seminars in Nutrition. Seminars in nutrition. Jan/Feb 1986. v. 5 (3). p. 1-18. charts. Includes 62 references. (NAL Call No.: DNAL TX341.N828).
Abstract: A monograph for dietitians surveys various nutritive and nonnutritive sweeteners, their specific properties, their chemical composition, their metabolism in humans, their relative sweetness, their metabolism in humans, their relative sweetness, their production, and their uses. The regulatory history of non-nutritive sweeteners and epidemiology studies regarding their safety also are covered. This information can aid dietitians in helping patients and consumers make appropriate decisions concerning the selection and use of a specific sweetener. Pre- and post-tests are included.(wz)

0229
Sweeteners: Consumer acceptance in tea.
JADAA. Sprowl, Diane J. ; Ehrcke, Lou A. Chicago, Ill. : The Association. Journal of the American Dietetic Association. Sept 1984. v. 84 (9). p. 1020-1022. charts. Includes 10 references. (NAL Call No.: DNAL FNC 389.8 AM34).
Extract: A taste panel rated tea samples sweetened with sucrose, fructose, aspartame, and saccharin for preference and aftertaste. Costs were also compared. Sucrose received the highest ratings for preference and aftertaste; saccharin was rated the lowest. Fructose and aspartame were the most expensive sweeteners; their ratings were not significantly different. (Author)

0230
Sweeteners: nutritive and non-nutritive.
FOTEA. Chicago, Ill. : Institute of Food Technologists. Food technology. Aug 1986. v. 40 (8). p. 195-206. charts. Includes 84 references. (NAL Call No.: DNAL 389.8 F7398).
Abstract. A report discusses the scientific status of nutritive and non-nutritive sweeteners. Nutritive sweeteners discussed include mono- and di-saccharide sugars, corn syrup, high-fructose corn syrup, sugar alcohols, and aspartame and its regulatory history and public health safety. The advantages, limitations, and specific uses and consumption of these sweeteners also are discussed.(wz)

0231
Sweetening agents of plant origin.
Kinghorn, A.D. ; Soejarto, D.D. Boca Raton, Fla. : CRC Press. Critical reviews in plant sciences. Includes list of plant species.~ Literature review. 1986. v. 4 (2). p. 79-120. Includes 276 references. (NAL Call No.: DNAL QK1.C83).

0232
Sweetners: Where we stand around the world.
QBAOD. Jones, M.B. York, Pa. : The Association. Quarterly bulletin - Association of Food and Drug Officials. July 1985. v. 49 (3). p. 109-115. (NAL Call No.: DNAL 389.9 AS7Q).

0233
Sweetness and bitterness contributions of structural units of aspartame and some analogues.
JAFCAU. Shinoda, I. ; Okai, H. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. Sept/Oct 1985. v. 33 (5). p. 792-795. Includes references. (NAL Call No.: DNAL 381 J8223).

0234
Sweetness evaluation of mixtures of fructose with saccharin, aspartame or Acesulfame K.
JFDAZ. Van Tornout, Ph. ; Pelgroms, J.~Van Der Meeren, J. Chicago, Ill. : Institute of Food Technologists. Journal of food science. Mar/Apr 1985. v. 50 (2). p. 469-472. ill., charts. Includes 15 references. (NAL Call No.: DNAL 389.8 F7322).
Abstract: A study established non-linear sweetness/concentration ratios for fructose and 3 artificial sweeteners (saccharin, aspartame, and Acesulfame K) vs. sucrose in an acidified, noncarbonated mineral water medium, using paired comparison tests. Sweetness additivity was shown for each of the artificial sweeteners when used in binary mixtures with fructose. Sensory task results indicated that low-calorie soft drinks containing fructose with as low as 2-3% sugar content were indistinguishable from traditional sucrose soft drinks. (wz)

0235
The sweetness-inducing effect of miraculin; behavioural and neurophysiological experiments in the Rhesus monkey Macaca mulatta (Sweetness-inducing protein from the miracle fruit Synsepalum dulcificum).
Brouwer, J.N.JPHYA. ; Glaser, D.~Hard Af Segerstad, C.~Hellekant, G.~Ninomiya, Y. Cambridge : Cambridge University Press. Journal of physiology. 1983. v. 337. p. 221-240. Includes references. (NAL Call No.: 447.8 J82).

0236
Synthesis and processing of the plant protein thaumatin in yeast (Thaumatococcus daniellii, Saccharomyces cerevisiae).
Edens, L. ; Bom, I.~Ledeboer, A.M.~Maat, J.~Toonen, M.Y. Cambridge, Mass. : MIT Press. Cell. June 1984. v. 37 (2). p. 629-633. ill. Includes references. (NAL Call No.: QH573.C42).

0237
Synthesis and taste of certain steviol glycosides (Diterpenes contained in Stevia rebaudiana).
Esaki, S. ; Tanaka, R.~Kamiya, S. Tokyo : Agricultural Chemical Society of

Japan. Agricultural and biological chemistry. July 1984. v. 48 (7). p. 1831-1834. ill. Includes references. (NAL Call No.: 385 AG8B).

0238
Synthetic sweeteners--though choice limited by regulatory actions, the need remains.
McCormick, Richard D. Chicago : Gorman Publishing Company. Processed prepared foods. June 1983. v. 152 (6). p. 111-112, 115. (NAL Call No.: HD9000.1.F64).
Abstract: Two sweeteners (saccharin and aspartame), alternatives to natural sugars, are discussed. These sweetener alternatives are commercially available and are approved by the FDA for consumption in the US. Saccharin, the first artificial sweetener, is not metabolized by the body; it is a noncaloric agent, used for more than 80 years, which exhibits a sweetness 300 times more intense than does sucrose. Some aftertaste is evident. Saccharin is widely used in low calorie and diabetic foods and beverages and as an at-the-table sweetener. Products using saccharin fall under the special dietary foods provision of food laws and require special labeling. Aspartame, marketed under the brand name NutraSweet, is metabolized by humans. It is a synthetic substance 160-220 times sweeter than sucrose; aspartame contributes 4 calories per gram and tastes like a natural sugar free of aftertaste effects. Special warning labels are directed to PKU (phenylketonuric) consumers. Technical problems limit aspartame's use. High temperatures such as those used in baking, retorting, and oil frying cause deterioration of the product. Changes that reduce sweetness are a function of time, temperature, pH, and moisture. (kbc)

0239
Table-top artificial sweeteners in current use in Canada: A plea for registration.
JCDTA. Baines, C.J. Toronto, Ont. : The Association. Journal of the Canadian Dietetic Association. Fall 1985. v. 46 (4). p. 288-291. ill., charts. Includes 17 references. (NAL Call No.: DNAL 389.9 C1632)
Abstract: A 1981-82 national survey evaluated the personal use of artificial sweeteners by a population of 14,000 Canadian diabetics, using a self-administered, mailed questionnaire. Difficulties were encountered in assessing the identity and amount of a given type of artificial sweetener by individuals over time since a single trade name may be associated with single agents or with a combination of agents. However, the survey data were used to develop a list of trade names associated with the artificial sweetener they carried. The data revealed that artificial sweeteners are sold to the Canadian public under a wide variety of trade names that rarely indicated the particular sweetener represented. The lack of a central registration or listing of all table-top sweeteners marketed in Canada required the tedious collection of information from multiple sources, both national and international. Summaries of saccharin, cyclamate, aspartame, and miscellaneous sweetener products are presented.(wz)

0240
Thin layer chromatographic detection and liquid chromatographic determination of stevioside and rebaudioside A in beverages and foods following reverse phase column chromatography.
JANCA2. Fujinuma, K. ; Saito, K.-Nakazato, M.-Kikuchi, Y.-Ibe, A.-Nishima, T. Arlington, Va. : The Association. Association of Official Analytical Chemists journal. Sept/Oct 1986. v. 69 (5). p. 799-802. Includes references. (NAL Call No.: DNAL 381 AS7).

0241
Three-dimensional structure of thaumatin I, an intensely sweet protein.
PNASA. Vos, A.M. de ; Hatada, M.-Wel, H. van der-Krabbendam, H.-Peerdeman, A.F. Washington, D.C. : The Academy. Proceedings of the National Academy of Sciences of the United States of America. Mar 1985. v. 82 (5). p. 1406-1409. ill. Includes 16 references. (NAL Call No.: DNAL 500 N21P).

0242
Time-intensity sensory characteristics of saccharin, xylitol and galactose and their effect on the sweetness of lactose.
Harrison, Susan K. ; Bernhard, Richard A. Chicago, Ill. : Institute of Food Technologists. Journal of food science. May/June 1984. v. 49 (3). p. 780-786, 793. ill., charts. Includes 22 references. (NAL Call No.: 389.8 F7322)
Abstract: A sensory evaluation study assessed the effects of saccharin, xylitol, and galactose on lactose sweetness and examined the sweetness characteristics of each sweetener by itself. A time-intensity sensory technique was used in several sweetness systems and for the detection of synergistic sweetness effects. Sweetness additivity was found for lactose-saccharin mixtures, while synergistic sweetness effects and suppressed sweetness effects were found for lactose-xylitol and lactose-galactose mixtures, respectively. These different effects were detected by examination of the area under time-intensity curves, indicating the value of this technique. Using initial sweetness intensity and sweetness duration data, all 3 mixtures indicated a suppression of lactose sweetness. (wz)

0243
A tobacco mosaic virus-induced tobacco protein is homologous to the sweet-tasting protein thaumatin.
NATUAS. Cornelissen, B.J.C. ; Hooft van Huijsduijnen, A.M.-Bol, J.F. Neptune, N.J. : Macmillan Journals. Nature. May 29/June 4, 1986. v. 321 (6069). p.

531-532. Includes 13 references. (NAL Call No.: DNAL 472 N21).

0244
The Toxicology and safety evaluation of non-nutritive sweeteners.
Snodin, D.J. ; Daniel, J.W. London : Applied Science Pub., c1983.
Developments in sweeteners-2 / edited by T.H. Grenby, K.J. Parker, M.G. Lindley. p. 157-178. charts. Includes 64 references. (NAL Call No.: DNAL FNC TP421.D48 F&N B-3959).
Abstract: A review of evaluation methods for assessing the safety of non-nutritive sweeteners addresses various current safety assessment techniques and the results reported for toxicological safety of intense (Acesulfame-K, aspartame, cyclamic acid, saccharin, and thaumatin), bulk (mannitol, sorbitol, xylitol, and hydrogenated glucose syrup and palatinose), and other sweeteners in current use. Some of the discussions concern acute, sub-acute, and chronic toxicity tests; carcinogenic, embryotoxic, reproductive, and pharmacokinetic studies; and short term in vitro and in vivo tests. A procedural for safety evaluation for human risk assessment is reviewed and discussed. (wz)

0245
Transglucosylation into stevioside by the enzyme system from Streptomyces sp.
ABCHA6. Kusama, S. ; Kusakabe, I.-Nakamura, Y.-Eda, S.-Murakami, K. Tokyo : Agricultural Chemical Society of Japan. Agricultural and biological chemistry. Oct 1986. v. 50 (10). p. 2445-2451. ill. Includes references. (NAL Call No.: DNAL 385 AG8B).

0246
Trihalogenated benzamides--a new class of artificial sweeteners.
Gries, H.ZLUFA. ; Mutzel, W.-Belitz, H.D.-Wieser, H.-Krause, I. Munchen, W. Ger J.F. Bergmann. Zeitschrift fur Lebe ittel-Untersuchung und -Forschung. May 1983. v. 176 (5). p. 376-378. ill. Includes references. (NAL Call No.: 384 Z39).

0247
U.S. outlook for sweeteners and tropical products (Market, includes high fructose corn syrup).
Barry, R.D. ; Gray, F. Washington : U.S. Government Printing Office. Proceedings - Agricultural Outlook Conference, U.S. Department of Agriculture. Dec 1983. Presented at the Outlook '84 Conference, Washington, D.C., October 31-November 3, 1983 -Includes statistical data. Dec 1983. (60th). p. 237-253. ill. (NAL Call No.: 1.90 C20U8).

0248
U.S. sugar industry remains heavily protected.
Foulke, J. Washington, D.C. : The Service. Farmline - United States Department of Agriculture, Economic Research Service. Aug 1988. v. 9 (8). p. 10-11. (NAL Call No.: DNAL aHD1401.A2U52).

0249
Using epidemiology to regulate food additives: Saccharin case-control studies.
Cordle, Frank. ; Miller, Sanford A. Washington, D.C. : Public Health Service. Public health reports. July/Aug 1984. v. 99 (4). p. 365-369. Includes 22 references. (NAL Call No.: 151.65 P96).
Abstract: A brief report summarizes the assessment of human epidemiological studies concerning the possible human risk hazards of saccharin use. The results indicate that, while an increased bladder cancer risk has been found in rats exposed to saccharin and cyclamate, human epidemiological studies are insufficient to support the conclusion that human use of saccharin and cyclamate enhances risk of cancer of the lower urinary tract. Various earlier descriptive and analytic studies are reviewed, together with the findings of more recent case-controlled studies. (wz)

0250
The water-sweet aftertaste of neohesperidin dihydrochalcone and thaumatin as a method for determining their sweet persistence.
CHSED8. Naim, M. ; Dukan, E.-Zehavi, U.-Yaron, L. Oxford : IRL Press. Chemical senses. Aug 1986. v. 11 (3). p. 361-370. Includes references. (NAL Call No.: DNAL QP456.C5).

0251
Xylitol: a natural sweetener that's kind to teeth.
NFSCD. London : Forbes Publications. Nutrition and food science. Nov/Dec 1987. (109). p. 24. ill. (NAL Call No.: DNAL TX341.N825).
Abstract: A commentary describes the recent trend in the use of xylitol as sugar substitute for reducing dental caries. Studies reporting the reduction of cavities by the addition of xylitol to the diet are discussed. It is noted that xylitol is not fermented to acids by microorganisms in the mouth, and that it inhibits the growth of Streptococcus mutans, a principal microorganism that causes acid attack. Its uses in chewing gum, confectionery, toothpastes, and other products are described.

ABCHA6. 245
ACSTD. 145
AJCNA. 31, 94, 97, 103, 115
Akgun, S. 96
Alanko, T.A. 208
Alli, C.R. 226
AMBIDG. 154
Ananichev, A.V. 138
APBMAC. 138
Argoudelis, C.J. 137
Arnolde, S.M.~Haigler, H.J. 26
Bada, J.L. 192
BADIA. 121
Baines, C.J. 239
Baker, G.L.~Steginк, Lewis D. 85
Balogh, K.~Laszlo, E.~Hollo, J. 70
Bar, A. 43
Barker, S.A. 99
Barry, R. 34, 120
Barry, R.D. 118, 247
Bartoshuk, L.M. 136
Barzanti, V.~Gentili, P.~Carenini, G. 170
Bauer-Nenrling, Jeanine K. 42
Bear, N.J. 41
Beaudette, T. ed. 228
Beckman, D.D. 191
Bernhard, Richard A. 242
Beveridge, H.J.T.~Cumming, D.E.~MacGregor, D.R. 151
BIBIAU. 100, 216
BICHA. 107
Bittner, S.E.~Mooney, A.K.~Rozek, L.F. 1
BJFBE6. 54
Blanchard, P.H. 185
Blume, E. 81
Blundell, J.E. 174
Bom, I.~Lepeboer, A.M.~Maat, J.~Toonen, M.Y. 236
Botha, L.J. 79
Bourges, H.~Canto, T.~Torres, N.~Lopez-Castro, B.R. 88
Bracker, C.A.~Hasegawa, P.M.~Handa, A.K.~Buckel, S.~Hermodson, M.A.~Pfankoch, E.~Regnier, F.E.~Bressan, R.A. 49
Bradstock, M.K. 103
Brody, Jane. 217
Brouwer, J.N.~JPHYA. 235
Brown, J.L. 175
Brown, K.~Rivers, B.~Knight, R. 65
Brummel, M.C.~Filer Jr., L.J.~Baker, G.L. 40
Buckley, C.E. III~Sampson, H.A.~Massey, E.W.~Baraniuk, J.N.~Follett, J.V.~Warwick, Z.S. 25
Bull, R.L. 106
Bunch, K. 128
Bunes, L.A.~Dietrich, P.S.~Stephenson, R.A. 80
Caballero, Benjamin. 2
Calvert, S. 129
Campbell, D.R.~Yates, J.A.~White, C.E. 86
Cappellini, L.~Airoldi, L.~Fanelli, R. 204
Carasik, W.~FOTEA. 72
Carroll, J.D. 72
Chang, S.S.~JAFCA. 209
Chen, K.C. 216
Chibata, I. 36
CHSED8. 250
Chun, M.J. 130
CIFST. 151
Clarke, M.A.~Parrish, F.W. 69
Clydesdale, F.M. 90
Cody, M.M. 3
Coker, L.E. 61, 123
Coleman, Philip E. 124
Compadre, C.M.~Swanson, S.M.~Nanayakkara, N.P.D.~Kinghorn, A.D. 153
Conning, D. 16
cook, J.M. 209
Cordle, Frank. 249
Cornelissen, B.J.C. 243
Coulombe, R.A. Jr. 162
Crapo, P.A. 131, 226
Crapo, Phyllis A. 75
Crayton, E.F. 139
Crofton, V.A.~Beeker, T.G. 200
CSOSA2. 89
Culbert, S.J. 173
Daniel, J.W. 244
Daniels, D.H. 146
Darise, M.~ABCHA. 50
Davidkova, E. 71
Davidkova, E.~Davidek, J.~Kminek, M. 140
Davoli, E. 204
Dever, M.C. 151
DICAD2. 35, 96
Downes, T.E.H.~Lombard, S.H.~McGill, A.E.J. 79
DuBois, G.E. 80
Dukan, E.~Zehavi, U.~Yaron, L. 250
Dwivedi, B.K. 207
Eden, L. 155
Edens, L. 236
Enrcke, Lou A. 229
EJBCAI. 37
El-Mofty, M.M. 172
Entel, N.H. 96
Esaki, S. 237
EVHPA. 181
FCTOD7. 152, 193, 204
Ferguson, H.B. 82
Fernstrom, J.D. 94
Fernstrom, J.D.~LIFSA. 5
Fernstrom, M.H.~Gillis, M.A. 5
Fernstrom, M.H.~Grubb, P.E. 94
Ferreira, C.M. 156
Filer Jr., L.J.~JONUA. 85
Filer, L.J. Jr.~Baker, G.L. 178, 190
Filer, L.J. Jr.~Baker, George L. 177
Finer, N. 221
FOCHD. 33, 165
Ford, N.J.~Greenfield, H. 57
FOTEA. 30, 101, 110, 112, 142, 159, 164, 230
Foulke, J. 248
Franz, Marion. 135
FRINEL. 207
Fujinuma, K. 240
Fujioka, N.~Konda, H.~Yamasaki, K.~Taniguchi, K.~Tanaka, R. 214
Furuya, T.~PYTCA. 7
Gaines, S.M. 192
Gardner, H.W. 145
Garfinkel, L. 15
Gault, G.E. 24
Geiger, E.O. 185
Gelardi, R.C. 159
GENED6. 53
Gentili, P.~Carenini, G. 169
Ghadimi, H. 11
Glaser, D.~Hard Af Segerstad, C.~Hellekant, G.~Ninomiya, Y. 235
Goenadi, D.H. 89
Goff, D.H. 23
Graves, D.J. 66
Gray, F. 247
Greditor, A. 119
Grenby, T.H.~Parker, K.J. Kenneth John.~Lindley, M.G. 73
Grenby, T.H. 171
Gries, H.~ZLUFA. 246

Grossklaus, R. 194
Guttler, F. 27
Hallburg, Jeanne C. 62
Handro, W. 156
Harbers, Carole A.Z. 124
Harrison, Susan K. 242
Hartnagel, R.E. Jr.~Kowalski, R.L.~Clemens, G.R.~Jasty, V. 196
Harvey, D. 44
Hatada, M.~Wel, H. van der~Krabbendam, H.~Peerdeman, A.F. 241
Hatfield, Densie 206
Heller, A. 17
Hennessy, T.J. 134
Hess, D.A. 55
Hess, D.A.~CECHA 10
Higginbotham, J.D. 186, 197
Hill, A.J. 174
HMMRA 83, 84
Hodgkin, J.A. 122
Homler, E. 110
Hooft van Huijsduijnen, A.M.~Bol, J.F. 243
Horwitz, David L.~JADAA 42
Hoschke, A. 70
Hyvonen, L.~JFDSA 104, 105
Isokangas, P. 188
Iwamura, J. 95
Iyengar, J.R. 147
Iyengar, R.B.~Brouwersnaven, J. van~Wassenaar, P.D. van~Bel, W.J.~Duderaa, F.J.G. van der 37
JADAA 3, 14, 55, 179, 229
JAFCAU 66, 68, 69, 80, 127, 233
JAMAA 29
JANCA2 148, 208, 240
JBCHA3 58
JCDTA 239
JDSCAE 92
Jemison, E.W. 65
JESED 21
JFDAZ 91, 117, 140, 202, 203, 234
JFPRDR 90
JKACA 130
JOCRAM 137, 147, 192
Joe, F.L. Jr.~Warner, C.R.~Fazio, T. 146
Johns, D.R. 157
Jones, M.E. 232
JONUA 32, 132
Jordan, W.K. 23
Jovanovic~Peterson, Lois~Peterson, C.M. 168
Jovanovic, L. 17
Kedc, A.~Snazer, W.R. 110
Kinghorn, A.D. 215
Kinghorn, A.D. 64, 231
Kinzer, G.W. 47
Klibanov, A.M. 100
Kobe, P.~McLane, M.P.~Olson, R.E.~Kamath, S.~Horwitz, D.L. 35
Kohda, H.~Mizutani, K.~Kasai, R.~Tanaka, O. 50
Komai, K. 95
Krail, K. 167
Kroger, M. 175
Kunkel, M.E. 3
Kunnen, R.~Uijtewaal, B.~Wijk, R. van~Bisschop, A. 87
Kurihara, Y. 58
Kurland, J. 128
Kusakabe, I.~Nakamura, Y.~Eda, S.~Murakami, K. 245
Kusama, S. 245
Labuza, T.P. 141
LaNoue, K.F. 98
Lapworth, Dora J. 62
Lawler, Philip F. 225
Lawrence, J.F. 147
Lebedoer, A.M. 53
Lee, J.H. 107
Leiter, L.A.~Anderson, G.H. 176
Leroy, P. 150
Leu, G.J.M. 114
Levine, A.S.~Marlette, J.M.~Morley, J.E. 97
Levitt, M.D. 115
Liang, Y. 83, 84
Lim, B.S. 130
Linke, H.A.B.~MCBIA 6
Lipton, R.B. 22
Lloyd, N.E. 39
Lorenz, S. 194
Lou, H. 27
Lowell, J.A. 218
Luo, S. 66
Mackenzie, A. 45
MacLean, J.T. 219, 220
Maher, T.J. 181
Maier, V.~Steinbach, G.~Lalic, L.~Pfeiffer, E.F. 84
Makapugay, H.C. 127
Makiner, K.K. 188
Mallett, A.K. 152
Maranesi, M. 169, 170
Margaro, W.L.~Kinzer, G.W. 48
Mason, J.R. 41
McCormick, R.D. 57
McCormick, Richard D. 143, 238
McGrath, M. 76
McGregor, J.U. 92
McNutt, K.W. 112
Meade, James H.~Shoemaker, Sharon P.~Kotns, Kirston E.~Innis, Michael A. 101
Meister, Kathleen A. 149
Menendez, C.E. 195
METAA 178, 190
Miles, R.D. 86
Miller, Sanford A. 249
Miller, W.T. 142
Miyagawa, H. 214
Monte, W.C. 28
Monti, J.C.~Jost, R. 13
Morgan, R.W. 193
Mumma, R.O. 106
Mutzel, W.~Belitz, H.D.~Wieser, H.~Krause, I. 246
Napors, Lyn O'Brien.. 9
Nadeau, D.B. 90
NAHRA 71
Naim, M. 250
Nakamura, S.~Fukui, H.~Tabata, M. 52, 56
Nanayakkara, N.P.D.~Soejarto, D.D.~Kinghorn, A.D. 127
NATUAS 180, 243
Nehrling, J.K. 35
NEJMAG 22, 25, 157
Nevins, M.E. 26
Newman, L.C.~Solomon, S.~Steinmetzer, R.V.~Kunkel, R.S.~Elsas, L.J. II~Schiffman, S.S.~Buckley, C.E.~Sampson, H.A.~Massey, E.W. 22
NFSCD 20, 251
NUBRD 182
NUREA 46, 74, 82
NURHA 173
NURIB 88
Ogata, C.~Shin, W.C.~Kim, S.H. 63
Okai, H. 233
Ono, N.~Roth, R.H. 183
Oshima, Y. 211
Otto, K.F. 121
Pardridge, W.M. 182
Pasley, J.N. 161
PCRPD8 52, 56
Pelgroms, J. 54

Pelgroms, J.~Van Der Meeren, J. 234
Petch, G.S. 99
Pezzuto, J.M. 153
Pfeffer, M. 4
PFNSD. 188
PHBHA. 41, 176, 200
Phelps, J.R. 187
PLMEAA. 156, 214
PLPHA. 49
PNASA. 153, 241
Porter, M.C. 196
POSCAL. 86
Powell, E.W.~Lamoreux, N. 161
Powers, M.E.~Sloan, A.E. 112
Prasad, D. 116
Pridham, J.B.~Saunders, N.A. 45
Prudel, M. 71, 140
PVTCA. 45, 211
QBAOD. 187, 232
Rackstraw, K. 133
Rai, G. 116
Rajbhandari, A.~LLOYA. 111
Rapoport, J.L. 74
Redlinger, P.A. 202, 203
Renneberg, R. 154
Renwick, A.G. 108
Richardson, M. 180
Riedel, K.~Scheller, F. 154
Riggin, R.M.~FCTXA. 47, 48
Rizzi, G.P. 68
Roberts, C.H.~Caballer, B.~Wurtman, R.J. 93
Roberts, M.F. 111
Rowland, I.R.~Bearne, C.A.~Purchase, R.~Gangolli, S.D. 152
Ruddy, Sue Gibson. 223
Ryan-Harshman, M. 176
Sadek, I.A.~Essawy, A.E. 172
Saito, J.~Hikino, H. 211
Saito, K.~Nakazato, M.~Kikuchi, Y.~Ide, A.~Nichima, T. 240
SAJDA. 79
Samundsen, J.A. 117
Saussele, H. Jr.~BADIA. 126
Scherz, J.C.~ZLUFAR. 13
Schiffman, S.S. 25, 160, 200
Schmitz, A.~Knutson, R.D. 114
Schoolwerth, A.C. 98
Serdula, M.K.~Marks, J.S.~Barnard, R.J.~Crane, N.T.~Remington, P.L.~Trowbridge, F.L. 103
Sestoft, Leif. 113
Setser, C.S. 10, 55, 202, 203
Shafer, R.B. 97
Sharma, R.P. 162
Sheiham, Aubrey. 222
Shinoda, I. 233
Sicard, P.J. 150
Siebert, G. 132
Singh, N.K. 49
Sjoberg, A.M.K. 208
Skelton, Marilyn. 201
Smith, D.E. 91
Smith, S.M. 125
Snodin, D.J. 244
Snodin, D.J.~Eaton, K.K.~Daniel, J.W. 197
Soejarto, D.D. 64, 231
Spawn, T.D.~Eliason, M.A. 189
Sprowl, Diane J. 229
Stamp, J.A. 141
Stannope, E.R. 60
Stegink, L.D. 30, 31, 32, 178, 190
Stegink, L.D.~JONUA. 40
Stegink, Lewis D. 177
Steinbach, G.~Maier, V.~Pfeiffer, E.F. 83
Stellman, S.D. 15
Stevens, Laura J... 166
Stoddart, C.~Simeon, J.G. 82
Stoecker, B.J. 195
Stone-Dorshow, T. 115
Sturtevant, F.M. 21
Suenaga, A.~CPBTA. 212
Tam, S.Y. 183
Tamura, Y. 52, 56
Tanaka, R.~Kamiya, S. 237
Theerasilp, S. 58
TOLED5. 116
Tomlinson, G.~BICHA. 63
Torma, R. 104, 105
Tosa, T.~Sato, T. 36
Tovar, A. 88
Tsang, W.S. 69
Tuleuova, E.T.~Ulezlo, I.V.~Bezborodov, A.M. 138
TXAPA. 162
Tyler, T.A. 148
Uzo, J.O. 213
Valdes-Rodriguez, S.~Blanco-Labra, A. 180
Van Tornout, Ph. 234
Venkatasubramanian, K. 61, 123
Verrips, C.T.~Dekker, E.M.M. 53
Vetsch, W. 33
Vinetskii, Yu.P. 224
Visuri, K. 100
Von Rymon Lipinski, G.W. 165
Vos, A.M. de. 241
Vroomen, Harry L. 12
Wada, T.~Ichibagase, H. 212
Wagner, B.M. 164
Walsh, G.M. 1
Wang, Y.M.~Fritsche, H.A. Jr.~Carr, D.~Lantin, E.~van Eys, J. 173
Wartman, A.M. 189
Webb, N.G. 191
Weickmann, J.L.~Koduri, R.K.~Ghosh-Dastidar, P.~Saito, K.~Blair, L.C.~Date, T.~Lai, J.S.~Hollenberg, S.M.~Kendall, R.L. 107
Wel, H. van der. 37, 155
Wesley, Myrna M. 223
White, C.H. 92
White, Thomas J. 101
Wills, R.B.H. 57
Wittinger, S.A. 91
Wolf-Novak, L.C.~Filer, L.J. Jr.~Bell, E.F.~Ziegler, E.E.~Krause, W.L.~Brummel, M.C. 32
Wolff, S.~ANYAA. 205
Wong, D. 193
WRNDA. 43
Wu, J.Y. 216
Wulff, Scott M. 184
Wurtman, R.J. 181
Wurtman, Richard J.~NEJMA. 163
Yokogoshi, H. 93
Yoshikawa, T.~Kiyonara, H. 7
Zande, L. van de. 87
Zenoble, D.C. 8
Zephirin, M. 77
ZERNA. 4
Ziegler, H.F.~Weideman, J.H. 126
Ziesenitz, S.C. 38, 132
Ziesenitz, S.C.~Siebert, G. 4
1940-. 9
1943-~Gelardi, Robert C... 9
1945-. 166

U.S. Department of Agriculture
National Agricultural Library
Beltsville, Maryland 20705

OFFICIAL BUSINESS
Penalty for Private Use, $300

Postage and Fees Paid
United States
Department of Agriculture
AGR-101